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ART. I. *An Essay on the History, Causes, and Treatment of Typhus Fever.* To which the Annual Prize for the year 1828 was awarded by the Medical Society of the State of New York. By ALFRED T. MAGILL, M. D., of Winchester, Virginia.

(Continued from the last number.)

THE philanthropic John Howard, in his work on Lazarettos, p. 25, remarks, that "The governor, at the French hospital at Smyrna, told me, that in the last dreadful plague there, his house was rendered almost intolerable by an offensive scent, especially if he opened any of those windows which looked toward the great burying ground, where numbers were left, every day, unburied; but that it had no effect on the health of himself or his family. An opulent merchant, in this city, adds he, likewise told me that he and his family had felt the same inconvenience, without any bad consequences."*

In the Edinburgh Medical and Surgical Journal, of October, 1810, is an account, given by Dr. Chisholm, of a manufactory at *Conham*, near Bristol, destined for the conversion of animal flesh into a substance resembling spermaceti, by cutting up dead horses, asses, dogs, &c. and putting their muscular parts into boxes with holes for the admission of water, and afterwards placing them in pits filled with water; while the entrails and useless parts of many hundreds of carcasses, were left to putrefy on the surface of the ground. The effluvia of these putrefying animal matters were highly offensive to the overseer of this manufactory, and to the workmen employed under him, as well as to others within their

* Bancroft, p. 97.

reach, yet no injury was done to the health of any person during the two years in which these operations were continued."*

In addition to these strong facts, and many others equally so, which we deem it unnecessary to mention, we may add that in no one instance that we have heard of, has typhus fever been attributed to the concentrated and putrid effluvia arising from the numerous dead bodies in the dissecting rooms attached to the different medical colleges in this and other countries. These facts are considered sufficient to prove that fever of no kind or description ever arises from animal putrefaction.

The next assertion, that typhus fever is produced by the effluvia arising from crowding healthy persons into close and ill ventilated places, is equally destitute of foundation. This is an almost universal opinion. We can hardly take up any work on the subject, in which we do not find this set down as one of the causes of typhus. Cullen, Chisholm, Good, and Wilson, all mention human effluvium as one of the causes of this fever. Cullen remarks, that "the effluvia constantly arising from the human body, if long retained in the same place without being diffused in the atmosphere, acquire a singular virulence; and in that state being applied to the bodies of men, they become the cause of a fever which is highly contagious." Chisholm says, "the cause, in fact, of *typhus*, is, I believe, an undefined change in the atmospheric air, brought about by its confinement in a very limited space, and incapacity, in a great degree, of renewal, and the respiration of an effluvium, emanating from the persons inhabiting the wretched close dwellings in which fever is found."† Good, when speaking of the causes of typhus, remarks, that "its common cause is febrile miasm, issuing from the decomposition of human effluvium, under the influence of the ordinary auxiliaries of a close and stagnant atmosphere."‡ Wilson, likewise, says, that "the effluvia of the living body, become putrid by stagnation, are capable of producing it,"‖ i. e. typhus fever. We see, therefore, that the ablest writers on medicine have adopted and published this opinion; and when bolstered up by such authority, it is not surprizing that it should have become so general. Bancroft, however, by a series of the most undoubted and convincing facts, has completely overturned this opinion, and has proved, beyond cavil or doubt, that it is never productive of typhus fever. We will select the most striking of the facts recorded on this subject.

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* Bancroft, p. 442.
† Ibid, p. 99.
‡ Study of Medicine, vol. 2, p. 124.
‖ On Fevers, vol. 1, p. 154.

"The people of the island of Oonalaska inhabit jourts, or subterraneous dwellings, each common to many families, in which they live in horrible filthiness." (Pennant's Arctic Zoology, vol. 1.) "And the Samoiedes live in subterraneous dwellings, equally filthy, for almost nine months in the year, who are yet reported by travellers to be strong, active, and healthy. In addition to all this filth, crowding, and want of ventilation, the *food* of these people may be considered as little better than putrefaction itself." Mr. Pennant, describing that of the natives of Kamschatka, says, "their ambrosial repast is the huigal, or fish flung into a pit, until it is *quite rotten*, when it is served up in a state of carrion, and with a stench that is insupportable to every nose but that of a Kamschatkan.* These people, notwithstanding their mode of living, do, with the exception of the scurvy, enjoy good health.

"The Greenlanders and Esquimaux appear, by the accounts of those celebrated navigators, Davis, Frobisher, Baffin, Henry Ellis, &c., as well as Bishop, Egede, and Crantz, to live during the greater part of the year in very close, ill ventilated, and crowded habitations, (without chimneys,) which, notwithstanding the great severity of the cold, they keep extremely warm by their numbers and breath, assisted by a single burning lamp in each, and by excluding fresh air so completely, that any other people would think themselves in danger of being suffocated by the offensive vapors continually exhaling from the lungs and bodies of the inhabitants, and which involve them as a thick fog; and yet fever of any kind is a rare disease among these people, though, like those of Kamschatka, &c. they are much disposed to scurvy."†

Dr. Mathew Guthrie, physician at St. Petersburgh, in a letter to Dr. Priestly, mentions, that "the Russian boor lives in a wooden house, caulked with moss, so as to be snug and *close*. It is furnished with an oven which answers the triple purpose of heating the house, dressing the victuals, and supporting on its flat top the greasy mattrass on which he and his wife lie."

"During the long severe winter season, the cold prevents them from airing this habitation, so that the air cannot be very pure, considering that four, five, or six people eat and sleep in one room, and undergo, during the night, a *most stewing process* from the heat and closeness of their situation, insomuch that they have the appearance of being dipped in water, and raise a steam and smell in the room, not offensive

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* Pancroft, p. 100. † Ibid, p. 101.

to themselves, but *scarcely supportable* to the person whom curiosity may lead thither."

"Now, if it be considered that this *human effluvium* must adhere to every thing in the room, especially to the sheep skins or mattrass on which they sleep, the moss in the walls, &c., and that the apartment is never ventilated for six months, at least; at the same time that these people are living upon salt fish, and the whole time without fresh vegetables, &c.—if it be a fact that they are, in spite of all these predisposing causes, *strangers to putrid disease*, it will sufficiently justify my first assertion, that the regimen nature has dictated to these people, is highly antiseptic."

Bancroft remarks, that "Dr. Guthrie has stated these facts principally to show the supposed beneficial effects of the Russian drink called quass, &c.; but I am entitled to avail myself of them for the purpose of demonstrating that long confinement in close unventilated houses, without chimneys, in an atmosphere replete with human effluvia, and in very cold weather, when typhus or contagious fever is commonly most prevalent, does not produce that disease, it being, as will hereafter appear, unknown in that part of the world."* From these facts we learn that the effluvia arising from the crowding of healthy persons into close and unventilated situations, in cold countries, at least, is not productive of fever; and upon examination, we shall find that the same cause is equally innocuous as regards the production of typhus fever in warmer regions of the globe.

The African slave ships present striking examples of this fact. "The poor wretches (says Lind, in his treatise on jail distemper) are crowded together below the deck, as close as they possibly can lie, with only a small separation between the men and women; every night they are shut up under close hatches, in a sultry climate, barred down with iron to prevent an insurrection; and though some have been suffocated by the close confinement, or foul air, though they are subject to the flux, and suffer from a change of climate, yet an infection is scarce known among them; or if an *accidental* fever, occurring from the change of climate, should become infectious, it is generally much more mild than in the opposite situation," i. e. that of ragged felons under transportation. Bancroft remarking upon this statement, says, "that Dr. Lind, influenced, as he was, by the commonly received opinions, mentions an infection (meaning fever) as being '*scarce known*' in the slave ships, instead of asserting, as he might

* Bancroft, p. 102.

have done with truth, that it is *never known;* for, (continues Bancroft,) after very extensive enquiries, I am fully convinced that fever of any kind rarely occurs on board these vessels, and *contagious fever never.*"

A striking instance of the harmlessness of the effluvia arising from the excessive crowding of persons into confined and close situations, may be found in the "Narrative of the deportation to Cayenne," of J. J. Job. Aimé, and one hundred and ninety-two other persons, on board the Decade frigate, in consequence of the revolution (in France) of the 18th Fructidor, (Sept. 4,) 1797, written by himself, and printed in 1800. In this narrative the writer says, "we were placed in the between decks, before the fore mast and main mast, occupying nearly one fourth of the superfices of the vessel, having about four feet and a half in height, and receiving no light but by the scuttles; that is to say, by two openings of three feet square."

"In this place, the door of which was locked, were crowded and squeezed together one hundred and ninety-three individuals, mostly aged and infirm. We lay in two rows, one over the other, forming, as it were, two stories, in hammocks of coarse cloth, and extremely narrow. Those below could not raise their heads without hitting those above; neither could any of us make the smallest motion without disturbing his neighbors; for we all touched each other, and not having the least spare room, formed, as it were, but one mass. And that nothing might be wanting to increase the horror of our situation, as we were not permitted to go out for fourteen hours together, (i. e. from 6 P. M., until 7½ A. M.,) and sometimes more, tubs had been placed in the midst of us, where we might satisfy the indispensable wants of nature; and to get to these sorry receptacles, we were obliged to creep on our bellies beneath the hammocks. How insupportable then must have been the infection of such a close confined place, which was already poisoned by our own exhalations! Indeed, the air which passed from this hole was so hot and fetid, that the sentinels placed at the hatchways as our guard, demanded that the time of their duty, at so dangerous a post, might be shortened."

In addition to all this, they "were condemned to subsist on the coarsest and the most disgusting half putrefied food," and "to endure the greatest and most offensive personal filth."* Yet, notwithstanding this combination of the most disgusting and distressing circumstances imaginable, nothing like conta-

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* Bancroft, p. 105–6.

gious fever manifested itself, although they were kept in this state for ninety-six days. If "crowding, want of ventilation, filthy clothing, and unwholesome, corrupting food, together with anxiety and dejection of mind," could have generated the contagion of typhus, it ought to have been present here in its most concentrated state.

Dr. Lind, in his essay on preserving the health of seamen, says, that "the surgeon of the Panther (of sixty-four guns) told me, that forty of her men had died of the scurvy on their passage home," (from the West Indies,) "and that during that time there were usually ninety patients in the sick apartment. The place appropriated for the sick was in the bay of the ship, and had no pipe from the ventilator, nor any scuttles cut through its sides for the admission of the fresh air. A number of patients, thus closely crowded together, rendered the place so disagreeable and suffocating, that the sick were in a manner stifled for want of air. The surgeon, when visiting, could scarcely breathe in it, or remain for any length of time, without being obliged to have recourse often to the fresh air upon deck, and sometimes to spirits of hartshorn, or to a glass of wine, for his immediate relief. He observed, that both the virulence and mortality of the scurvy were heightened by the uncultivated air of the place in which the sick, for several weeks, had been confined; yet, out of above a hundred patients sent to the hospital by this surgeon, not one was remarked to have any symptom of contagion generated in that apartment." This case is the stronger in point, because the men thus crowded together were in a diseased state. Many more facts of this kind might be mentioned, but these are deemed amply sufficient to satisfy the most sceptical that human effluvium is not productive of contagious fever.

Of a Specific Contagion as the Cause of Typhus. The contagiousness or noncontagiousness of typhus fever, has been the source of much, and occasionally bitter, controversy, between the members of the medical profession. Until the present century, few or none were found so bold as to question its infectious character, and thus run counter to the prejudices, not only of the profession, but of society at large. Though, however, the doctrine of contagion, as an attribute of typhus, remained for a long time unimpugned; yet it finally came to be doubted, and the noncontagionists can now number as their friends a large proportion of the distinguished members of the profession. One reason of our long continued and implicit credence in the contagiousness of typhus, may be found in the very character of man. It is his nature

to cling with great tenacity to long fostered and traditional opinions, clothed as they are with the names and authority of the venerable sages of other times; and he feels a pride in preserving his opinions, when once formed, unchanged; and thus it is that the prejudices of education, and the pride of consistency of opinion, often blind us to the light of truth, and rivet upon us the chains of error.

As it is a subject of much importance in many points of view, we will enter into the merits of this question as fully as the length of this essay will admit. The vexations, embarrassments, and restrictions upon commercial intercourse, produced by quarantine regulations, and the large and expensive establishments* in different countries for carrying them into operation, and the delay and inconvenience to individuals, all demand that this question should be rigidly examined into, and settled finally one way or the other. If, upon strict scrutiny, it should be found not to be contagious, then the abolition of quarantine establishments ought immediately to follow. If, however, after the most thorough and impartial examination, it should appear to be contagious, the quarantine regulations cannot be too rigidly enforced.

In discussing this subject, we shall in the first place contend that typhus fever has not the characteristics of a contagious disease; 2d, that it often has occurred without the presence of contagion; and 3d, that it often evinces no contagious character whatever. 1st. Typhus fever has not the characteristics of a contagious disease. All known contagious diseases run a regular and determinate course, and are marked by symptoms which unequivocally distinguish them from other diseases. Thus, smallpox, measles, chickenpox, and cowpox have each peculiar symptoms, which succeed each other in regular succession, and pursue an invariable and certain course, independently of the treatment used. Thus, smallpox, for instance, though it may have its symptoms ameliorated by a proper treatment, or the reverse may take place by improper management, will, nevertheless, pass through all its regular and determinate stages. The same may be said of the other examples adduced. Now, the question may be asked, does typhus fever come up to this rule? We answer in the negative. That it has no distinctly marked pathognomonic symptoms, is evident from the fact, that dif-

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* Maclean, in his work on Epidemics, vol. 1, p. 456, says, "In this country (i. e. England) they have cost the nation for the last fifteen years, independently of the detention of ships, crews, passengers, and merchandize, at least £300,000."

ferent appellations are frequently given to the same fever by different physicians. Thus, one will pronounce it to be the common continued fever, another the genuine typhus, and a third, meeting with an unusually violent case, would call it yellow fever;* and there is not a single symptom laid down as belonging to typhus, which is not to be met with in other fevers.

Neither does it, like known contagious diseases, run a defined and determinate course. It may last one, two, three, or six weeks, according to the treatment pursued. Again, the period at which morbid action is developed after the reception of contagion, is determinate in contagious diseases. This is not the case in typhus fever, as contagionists say that the infection may lie dormant during a period extending from one day to six months.†

In the next place, acknowledged contagious diseases affect a person but once during his life; this is a wise and beneficent law stamped upon them by the great author of creation to prevent them from becoming universally prevalent. "It is the incapability of affecting the same person more than once which, in general contagious diseases, sets boundaries to infection; and could alone, where no precautions are taken, prevent communities from being extinguished."‡ Typhus fever does not possess this characteristic; it may, and frequently does, attack the same person repeatedly, and it is obvious that possessing, as it unquestionably does, this attribute, if you invest it also with the power of producing and propagating itself by a specified contagion, no human power

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* Dr. Carrathers, surgeon of the Malta, in his account of the typhus which prevailed on board that vessel, and which is to be found in Trotter's "Medicina Nautica," remarks, that "many of the sick had yellowness of the skin, insomuch that he suspected that the yellow fever had been introduced by communication with a sickly ship from the West Indies!" See Cooke's Practice, vol. 1, p. 497.

† Bancroft says the fever may make its appearance six months after the infection, and Haygarth expresses the same opinion. We cannot help applying a remark of Dr. Armstrong's to the opinions of B. and H. on this subject. He says, "If an author is persuaded that there must be a specific contagion as the cause of every fever resembling typhus, he will undoubtedly go far to seek it." The above named gentlemen prove the truth of this remark, for they, with the most wonderful acuteness and sagacity, pretend to have detected its operation six months after exposure to it. Unlike the bed of Procrastes, which reduces every thing to the same common size, they endow contagion with the wonderful property of expanding or contracting, so as to embrace every case which may occur from one day to six months after its application. Does this diversity in the time of producing its effects, comport with our ideas of something specific and unchangeable in its nature? Do the known contagions ever operate in this way?

‡ Maclean on Epidemics, vol. 1, p. 100.

could prevent its spreading almost over the whole human family. Every person in health would be attacked, as often as he came within the infectious distance of any one laboring under the disease. Those only would escape who could preserve themselves constantly beyond that distance, or were laboring under some malady higher, in degree, than the prevailing epidemic. But, as disease spread, no person in health could continue long beyond the sphere of infection; and those who had been protected by diseases higher in degree, would, upon recovering, become liable to be affected by the contagion. It would observe a geometrical progression, diverging, as it were, from the centre to every point of the circumference of a city, a camp, an hospital, or a ship, while it had subjects to operate upon; i. e. while a single individual of the community remained alive it would never cease. Those who recovered would, again and again, be seized; no person who remained within the pale of society could escape. The malady would be communicated to the most distant nations. Infection would proceed in a continued circle, until the whole human race was extinguished."* This extract is a highly wrought, though true, account of what would be the effect of adding to the powers which typhus has of repeatedly attacking the same person, that of being capable of generating and propagating itself by contagion. Inasmuch, therefore, as typhus fever has no regular and pathognomonic symptoms, and as the period at which the symptoms of disease are manifested, after infection, varies, according to contagionists, from one day to six months, which is inconsistent with our ideas of something specific in its character, and uniform in its operation; and as it is unlike all known contagious diseases, in being capable of affecting the same person repeatedly, and does not spread until it becomes universal, which should be the inevitable effect of uniting to this latter trait the property of contagion, we think, therefore, it must be admitted that it does not possess the characteristics of a contagious disease.

2d. That it has often occurred without the presence of contagion. To prove this second proposition, we will adduce facts mentioned by contagionists themselves. It is presumed that as the advocates for contagion would not gratuitously and without good reason mention facts subversive of their own opinions, that, therefore, these facts ought to have more weight than would be attached to them under other circumstances; as a man is not to be suspected of insincerity or im-

* Maclean on Epidemics, vol. 1, p. 214–15.

proper bias when he gives evidence against himself. But to the testimony.

Trotter, who was a zealous advocate for the contagious origin of typhus, mentions, in his Medicina Nautica, many instances of it, which could not be traced to contagion. On board the Niger, he says, "It first appeared among the marines, but latterly affected the seamen. Its origin could not be exactly traced."* In the Glory, also, "We could not trace it distinctly to its source."† "No imported contagion was duly authenticated"‡ as the cause of the fever which broke out on board the Edgar, while at sea. Of that on board the Pompey, at sea, "No satisfactory account could be obtained of its origin."‖ Trotter says, Mr. Johnson remarks in relation to the fever which occurred on board the Saturn, "I could not trace this fever to any infection imported by any of the people."§ In the Magnificent, the surgeon says, the fever spread more than he had expected; "but still I cannot trace it satisfactorily to a contagious cause."¶ Trotter says, when speaking of the typhus on board the Captain, "No imported contagion has been suspected here."** Of the same on board the Uranic, he says, "It does not appear that any imported contagion has been suspected as the cause of this fever."†† Speaking of the same vessel again, he says, "It does not appear that any imported contagion could be suspected here." In giving the result of his experience for many years, he says, "It is very certain that this fever is generally spread by contagion; but it is equally certain, that it frequently *arises in places where there could be no suspicion of communication with infected persons or clothing.*"‡‡ The above facts are taken from a treatise on pathology and therapeutics, by John E. Cooke, M. D., professor, of Transylvania University, in which this subject is discussed with the most masterly ability. I shall mention but one more case of this kind, to be found in Assalini's work on the Plague. He says, that in the years 1799 and 1800, "An epidemic disease spread its ravages in the hospitals of the army of Italy, and carried off daily its numerous victims." The fever spreading rapidly, and much alarm being created, "the public authority (says he) thought proper to consult the school of medicine of Montpelier, which hastened to calm their inquietude, and reanimate their drooping spirits, by proving that this fever, falsely regarded as pestilential, was not at all dif-

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* Medicina Nautica, vol. 1, p. 153. † Ibid, p. 160. ‡ Ibid, vol. 3, p. 63.
‖ Ibid, p. 64. § Ibid, p. 147. ¶ Ibid, p. 167.
** Ibid, p. 60. †† Ibid, p. 151. ‡‡ Ibid, vol. 1, 252.

ferent from the fever of hospitals, the *typhus carcerum* of Pringle, or the fevers of camps and armies, febris castrenis." "With regard to this disease, the majority attributed it to rains and fogs. A citizen of the environs of Antibes assured me, that if this disease had taken place some months before, it would, without fail, have been attributed to the vessels just arrived from Egypt, and which had put ashore at Fregus without performing quarantine."* These facts are deemed sufficient to prove that typhus often appears without the least reason to suspect contagion as its cause.

Physicians, however, aware of this fact, and unwilling to surrender their long cherished opinions, are driven to the absurd alternative of supposing that typhus may have a double origin, or, in other words, that the specific contagion of typhus may be produced by other causes than itself. Thus, Gregory says, "there is nothing improbable in the supposition, that what originated in cold may be afterwards propagated by contagion."† Dr. Adams, in his work on morbid poisons, inculcates the same opinion. To these, and all similar opinions, we will apply the language of Bancroft when alluding to that of Dr. Adams on this subject. He says, "that Dr. Adams, who is accustomed and qualified to reason, should have believed any thing so unphilosophical and *incongruous*, would have been incomprehensible to me, if so many others had not discarded common sense on the subject of contagion. To represent a disease which is *notoriously contagious*, and propagated by contagion, as capable of being produced by other, and those very different, means, is to multiply causes unnecessarily, and, therefore, unjustifiably; and it moreover destroys the natural and just influence of causes upon their effects, by making the same disease result from very dissimilar causes; and, a little farther on, he observes, that "were it possible for typhus thus frequently and easily to originate without contagion, and at the same time acquire and multiply itself by a contagious quality, who could ever hope to escape the disease."‡

3d. That it often evinces no contagious character whatever. Contagionists themselves afford evidence to this effect. Trotter, in his Medicina Nautica, mentions many instances in which it was not contagious. "A fever (says he) of the typhus kind appeared among the gentlemen of the Invincible, in Torbay, which extended to a number of cases.

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* Assalini on the Plague, p. 89, 90, 91.
† Gregory's Practice of Physic, vol, 1, p. 55.
‡ Bancroft on Fevers, p. 340, 341.

Yet it is singular, that it did not affect any of the seamen, although some of them attended their officer, who slept in the gun room, and where communication with the ship's company was not prevented."* "The Niger has been ten weeks at sea; at leaving port four relaspes in fever happened among men discharged from the Warlar. Mr. Burd does not assign any cause for these returns; no infection spread from them."†

"We know of nothing (says Trotter) that can propagate this fever, but exhalations from the body. But a patient in typhus was sent from the Venerable to the hospital ship, with a fætor about him, that exceeded every thing of the kind which ever came within my knowledge. After being washed and shifted, it still continued, and was perceived at a considerable distance. He died in a few days; yet nobody was infected from him, either in his own ship, or our hospital."‡

Speaking of the Charon hospital ship, Trotter says, "We had in that hospital many malignant cases of typhus, and some deaths, yet no infection was ever spread there."‖

In 1790, a number of troops embarked on board the Gorgon to go to New South Wales. While lying in the harbor of Portsmouth, typhus fever prevailed among the soldiers, and several died. "The troops lived on the lower deck, and when the ports were shut at night, the exhalations from below naturally ascended through the gratings among the sailors; not one of them had the slightest sign of infection."§ The above facts are also derived from Cooke's work on pathology and therapeutics.

In the instance already cited from Assalini, of the fever which attacked the army of Italy, in the Ligurian republic, it is stated in a report made to the society of the school of medicine at Paris, that "it is was of the nature of jail fever, and was not at all contagious."¶

Wilson, in a note to page 156 of his chapter on continued fevers, says, "It is remarkable, indeed, that we sometimes meet with malignant fevers, which do not appear to be at all contagious." "Sometimes, (says he,) Dr. Lind observes, one man may be seized with the petechial or with yellow fever, while the rest continue unaffected." Dr. Lind gives several instances in support of this observation.

These facts prove that typhus fever is not, at least, always

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* Trotter's Medicina Nautica, vol. 1, p. 109. † Ibid, p. 164.
‡ Ibid, p. 195. ‖ Ibid, p. 179. § Ibid, p. 210.
¶ Assalini on the Plague.

contagious, and it is inconsistent with our ideas of a strictly contagious disease, that it should at one time possess this characteristic, and at another be destitute of it. Known contagious diseases are always and invariably the same; they are contagious under all circumstances; but typhus fever has been shown not to be so; and, to use the language of Bancroft, "as the same disease, in suitable circumstances, is *always*, or *never*, contagious, we may safely rely" on the numerous facts adduced, to disprove the assertion, that contagion is one of the characteristics of typhus.

The advocates, however, for the contagious nature of typhus, in order to avoid the inference legitimately deducible from the above facts, and others which exist, are driven to the necessity of reducing the question of its contagious character to very narrow limits. They admit that it does not evince this quality in situations where there is a free circulation of pure atmosphere;* but contend that it possesses it in the impure atmosphere of close, filthy, and unventilated apartments. The fact of its attacking many persons in succession under such circumstances, has been assumed as sufficient ground for a belief in its contagious character; but this surely only proves the existence of some general cause acting on all in those circumstances, and not that the disease is communicated from one to the other by means of a specific contagion. That general cause is unquestionably the impure atmosphere itself; for, if an individual laboring under typhus is removed out of the foul air, he does not propagate the disease; but the impure atmosphere will continue to produce it in most of those subjected to its influence. The circumstances, then, under which alone contagionists say that typhus is infectious, being of themselves capable of producing it, or exciting it, are in them already predisposed; but it is unnecessary and unphilosophical to assign that as a cause of the fever, which is acknowledged to be only operative during the presence of causes which, without this, are capable of producing it. We do not think, therefore, that contagionists can sustain themselves on this ground. Under the next head of this essay we will speak more particularly of the cause of this impure atmosphere, which we consider as alone capable of producing this fever.

We have now finished what we have to say on this part

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* It was from a knowledge and conviction of this fact, that infirmaries and houses of recovery were established in England. These institutions for the reception of the wretched paupers of that country, were the result of the philanthropic labors of Ferriar, Percival, and others; and will constitute a lasting monument to their memory and reputation.

of the subject. We trust that we have established to the satisfaction of every unprejudiced mind, the three positions for which we have contended. 1st, that typhus fever has not the characteristics of a contagious disease; 2d, that it has often occurred without the presence of contagion; and 3d, that it often evinces no contagious character whatever. If we have even proved the last of our positions, then Bancroft and his disciples at least ought to admit the justice of out conclusion that it is never contagious, as he uses the same train of arguments against the contagious nature of yellow fever, and comes to the same conclusion in regard to it, from the facts he had collected upon that subject.

There are, it is true, some apparently strong facts on record in proof of its infectious nature, but we believe that they cannot stand the test of rigid scrutiny. The fevers which occurred at the black assize, at Oxford, in 1577, and at the Old Bailey, in 1750, are always held up as evidences of its contagious character; but no one can read the remarks of Bancroft upon them, without being convinced of their utter want of claim to be considered in this light. To notice all the instances of this kind to be found in books, would swell this essay far beyond reasonable limits, and we shall therefore not attempt it.

We will now, in the last place, examine the opinion of those who deny that typhus fever possesses the property of contagion, and who consider it as a mere variety of the continued and remittent fever, and of course as arising from the same causes.

We are among those who entertain this opinion; and from a close and impartial examination of all the facts and arguments bearing on the question, are perfectly satisfied of its correctness. In order to render this subject as clear as possible, we will in the first place endeavor to show "that typhus fever arises in situations in which miasmata abound." 2d. "That the symptoms of typhus are those of autumnal or miasmatic fevers!" 3d. "That typhus fever appears in company with miasmatic diseases, and that they are mutually convertible into one another."* Before proceeding, however, to a consideration of the different heads of this part of the subject, it will be just and proper to remark, that we shall stand indebted to Dr. Cooke's admirable essay on the causes of typhus, contained in the first volume of his work on pathology and therapeutics, for most of the facts to be mentioned on this subject. The author of the above mentioned work

* Cooke's Pathology and Therapeutics, vol. 1, p. 450.

has so completely covered the whole ground of controversy, and so perfectly exhausted the subject, that but little else is left for others to do, than merely to draw upon the rich storehouse of facts, collected by his unceasing and indefatigable industry.

1st. Typhus fever arises in situations where miasmata abound. Currie mentions, "that the corporation of Liverpool, being about to apply to parliament for powers to improve the streets and police of the town, requested the physicians of the Infirmary and Dispensary to suggest to them such alterations as might contribute to the health and comfort of the inhabitants.* The physicians took this request into serious consideration, and presented a report of considerable extent, including a view of *the causes* of the uncommon sickness of the two preceding years, and of *the measures requisite to prevent its recurrence*, and to remove the frequency of contagion in the habitations of the poor." The physicians consulted, and pointed out the necessity of enforcing cleanliness in the streets, to which end an improvement of the pavement was represented to be essential; and they particularly advised a general review of the common sewers, and an improvement of their structure, on the principles of the report on this particular subject, addressed by them to the mayor and magistrates, in 1788. They further advised, that effectual provision should be made for draining the grounds within the liberties, and particularly to the north of the town. "Repeated remonstrances (the words of the report) have been made for the last twenty years, on the collections of standing water, including filth of every kind, which are suffered to remain in the district which extends along the termination of the streets, from St. Paul's square to Byron street, and to which the low fevers, which in the autumnal months especially infect these streets, are principally to be imputed."† In this instance, the physicians, with a view to prevent the recurrence of the "low fevers" which had prevailed so widely during the two preceding years, recommend the removal of those circumstances, which are every where fruitful in the production of miasmatic exhalations.

At page 23, Currie mentions another fact, clearly evincing the miasmatic origin of typhus fever. He says—"The 30th regiment, as is usual with troops in Liverpool, was billeted in the town, but paraded and mounted guard in the fort, situated north of the town, on the banks of the river. The gene-

* Currie's Med. Reports, p. 246. † Ibid, p. 247.

ral guard room had been used, previous to the arrival of the 30th, as a place of confinement for deserters: it was extremely close and dirty, and under it was a cellar, which in the winter had been full of water. This water was now half evaporated, and from the surface issued offensive exhalations." In a dark, narrow, and unventilated cell of the guard room, it was usual to confine such men as were sent to the guard for misbehavior; and about the 20th of May, 1792, several men had been shut up in this place on account of drunkenness, and suffered to remain there twenty-four hours, under the debility that succeeds intoxication. The typhus or jail fever made its appearance in two of these men about the first of June, and spread with great rapidity.* All the precautions used, by cleansing and ventilating the guard room, were ineffectual in preventing the progress of the fever. The weather was at this time wet, and extremely cold for the season: the men on guard could not be prevailed on to remain in the open air; and, from passing the night in the infected guard room, several of the privates of the successive reliefs caught the infection, and fell ill on the 10th, 11th, and 12th of the month.* We here find that all attempts at arresting the fever by washing and ventilation, were in vain; and why? because the source of the fever obviously was the "offensive exhalations" from the cellar under the guard room; and it was not until the guard room was shut up, and the soldiers removed to "a temporary shed erected in its stead," that the fever ceased.

Dr. Ferriar, of Manchester, in England, in his address to the police on the best means for the prevention of fevers, remarks, "that during the late epidemic, it was observed that the fever (i. e. typhus) prevailed most in streets which were not drained, or in which dunghills were suffered to accumulate, or where the blood and garbage from slaughter houses were allowed to stagnate." These facts, and many others of a similar import which we might mention, unquestionably prove that typhus fever arises on land, in situations where miasmata must abound.

It has also frequently appeared in ships at sea; and after a full and rigid examination of the many instances of the kind to be met with in books, we think we can venture to assert that in every instance, where the circumstances attending its origin and progress in such situations are detailed, they will be found abundantly sufficient to produce fever, without bringing in contagion to account for it. One

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* Currie's Med. Reports, p. 25.

of two things will be generally found to exist; either that the state of the vessel as regards filth, &c. is such as would probably of itself give rise to febrific exhalation; or, that the crew has been exposed to miasmata on land, and being thus predisposed to fever, the exposure to bad weather, the inclemencies of a sea voyage, and the fatigue incident to such situations, act as existing causes, and fever is the result.

2d. That the symptoms of typhus are those of autumnal or miasmatic fevers. Under this head we shall say but little, because we believe that no one will question its truth, who examines into it with any degree of attention. Dr. Armstrong, in speaking of the identity of the remittent and typhus fevers, remarks, that the remittent and typhus fever from *malaria* or *marsh effluvium*, "has a combination of symptoms exactly similar to those which occur in continued typhus fever, and which, *as a combination*, occur in no two other affections whatever."* They both commence with a stage of oppression or weakened action of the heart; in both this first stage occasionally continues unchanged, and constitutes then the congestive fever; but in both the heart generally reacts from this first stage of oppression, and produces the open form of fever, the succeeding symptoms in each being dependent on the degree of this reaction, and the previous state of the different organs of the body.

The general symptoms in both are, therefore, alike, and if we descend to an examination of particular symptoms, we shall find none which exclusively belong to typhus. Petechiæ, which are so common in typhus, as to have given it a name, occur also in other fevers. Rush mentions their frequent appearance in the yellow fever of 1793, and almost every practitioner of any experience has often met with them in the autumnal fever of this country.

Yellowness of the skin is a frequent symptom of miasmatic fevers. It also often occurs in typhus fever. Mr. Caruthers, surgeon of the Malta, in his account of the typhus which had appeared in that vessel, says, that "many of the sick had yellowness of the skin, insomuch that he suspected that the yellow fever had been introduced by communication with a sickly ship from the West Indies."† In reference to the above statement, Trotter remarks that "Icterus is not an unfrequent symptom in typhus; it was particularly remarked among our seamen in the warm summer of 1794;"‡ and in vol. 1, p. 259, he says, "I have often seen the eyes and

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* Medico-Chirurgical Review, September No., 1822, p. 395.
† Trotter's Medicina Nautica, vol. 3, p. 215. ‡ Ibid, p. 218.

skin, with the urine, as deeply tinged with bile in typhus, as I have remarked them in the yellow fever of the West Indies."

We will now proceed to the consideration of the third and last division of this part of our subject, which is, "That typhus fever appears in company with miasmatic diseases, and that they are mutually convertible into each other." To prove this we shall resort to the testimony of those who were perfectly familiar with the disease in all its different forms.

It is now generally acknowledged that dysentery is but a form of our autumnal bilious fever, and, of course, that it originates from the same cause, or, in other words, that it is, what the unnerring sagacity of Sydenham long since pronounced it, a "febris introversa." Typhus fever, then, often appears in company with this disease. Pringle, in his account of the diseases of the army when in Germany, in the year 1743, says, "The state of those at Feckenheim has been already mentioned; there the hospital fever and dysentery grew daily worse."*

Trotter says, the ship Reasonable arrived at Spithead in January, 1794, and "landed upwards of a hundred very ill of typhus and dysentery." "A considerable number of cases of flux and (typhus) fever, were received from the Gibraltar."†

At page 192, of vol. 1, of his Medicina Nautica, Trotter says, "There were a larger number of bad cases of typhus, ague, and dysentery, than usually come to a naval hospital at one time. From the same transport, and in the same regiment, were brought people of the three diseases just mentioned;" and in vol. 2, p. 14, he says, on board the Powerful, "a dysentery was associated with the fever."

It also appears in company with remittent and intermittent fevers, which are confessed by all to be produced by miasmatic exhalation, and is often converted into them, and *vice versa.*

There is an abundance of evidence in proof of this. Trotter says, "I have seen a family where the father was laboring under an obstinate tertian, while the mother and some of the children were ill in bed with typhus." "Nay, I have constantly remarked in those ships where contagion prevailed, that many cases of regular intermittents and remittents occasionally appeared. When they increased in proportion to the number of the continued type, and the latter becoming milder in its attack, I consider it as an infallible sign that the

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* Pringle on Diseases, p. 25. † Trotter's Med. Nautica, vol. 1, p. 58.

power of the infection was on the decline, and would be speedily subdued."*

"The attacks of fever," says Trotter, "since leaving Cork, had been more numerous than on the preceding week. They were both of the continued and intermitting types."†

About the beginning of March, the infection seemed to be on the decline; which appeared from the attacks being less severe; some cases of the remittent and intermittent type were now observed.‡

"The sick list consisted of seventeen venereal patients, and seven in fever, some of them regular tertians. Some were every morning discharged to duty, and others added in the course of the day, in both the continued and intermittent forms."‖

"Those cases (of typhus) which have occurred latterly, have been slight, with a general intermittent tendency."§

"The Royal George did not seem to suffer much from the infection." "They assumed a bilious remittent form."¶

Trotter says, "It is not easy to trace those circumstances, which occasionally convert an intermittent or remittent fever into a continued type, (or typhus,) and *vice versa*. There must, however, be something in their disposition very much alike; for, wherever we find the typhus affecting a number of people at a time, we also find cases of the remittent and intermittent form."**

Ferriar mentions one instance of the conversion of typhus into intermittent fever. "In one case," says he, "where a typhus was unusually protracted, after several hazardous determinations to the stomach and bowels, the fever assumed the form of an intermittent."††

Trotter, in speaking of the typhus on board the Valiant, says, "the cases were becoming milder; in some it put on the intermittent form, which showed that it was now on the decline."‡‡

Dr. Armstrong, in a short essay on the origin, nature, and prevention of typhus fever, published in 1822, made a public recantation of the opinion he had long entertained relative to the contagion of typhus, and adopted that of its miasmatic origin, and its identity with intermittent and remittent fevers. The following account of the reasons of his change of opinion, is taken from the Medico-Chirurgical Review, September number, 1822. "Dr. Armstrong states, (says the Re-

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* Trotter's Med. Naut. vol.1, p. 185. † Ibid, p. 311. ‡ Ibid, p. 187.
‖ Ibid, p. 188. § Ibid, p. 70. ¶ Ibid, p. 83. ** Ibid, p. 311.
†† Ferriar's Med. Histories, p. 32. ‡‡ Trotter's Med. Naut., vol.1, p. 66.

view,) that in 1819 he attended a patient laboring under an intermittent fever, which, in its progress, put on a remittent character, and ultimately a continued form and typhoid type, accompanied by very malignant symptoms. This case made a deep impression on his mind, and inclined him to ask, whether intermittent, remittent, and typhus fevers, might not possibly be modifications of one and the same disease. Up to this period, Dr. A. had firmly believed that human contagion was the sole cause of genuine typhus fever; but a doubt having been excited, he determined, if possible, to divest his mind of all former bias, and investigate the subject ab origine. In the course of the three succeeding years, a very great number of typhus cases have fallen under his notice, and the result of his observations is a decided conviction," "that what the Italians vaguely call *malaria*, and the English, as vaguely, *marsh effluvium*, is the primary source of typhus fever." In the next page the Review continues the subject, and says, "In tracing back many of the cases, Dr. A. found that they had commenced as intermittents; he has seen the remittent run into the continued typhus, and the continued typhus become remittent or intermittent."*

What stronger testimony can any one require to prove the identity of any two diseases, than the fact of their frequent conversion into each other? We have cited abundance of evidence to prove that this frequently takes place in typhus and acknowledged miasmatic diseases, and it is a fact, too, which cannot be evaded, unless by those who are absurd enough to contend, that a disease which they say is one *sui generis* and specific in its character, can change to one entirely different in its nature and origin. If there be any such persons, we will only ask them, if smallpox was ever known to change into measles, or *vice versa*, or cowpox into chickenpox?

It has been the common opinion for a long time, that typhus fever is a disease exclusively of the winter season, and hence the conclusion that it cannot arise from marsh effluvium, because the latter requires for its production, the cooperation of heat with moisture. We, however, deny the fact of its being a disease only of the winter season, and a

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* This repudiation of a long cherished and favorite opinion is highly honorable to Dr. Armstrong; it shows a mind truly independent and devoted to truth, and clearly proves that he will not cling to an error, when convinced of its being such, merely for the sake of consistency of opinion. *Oc si sic omnes.* It, moreover, speaks volumes against the contagious nature of typhus. Dr. Armstrong never would have left the ranks where he had long fought as the most distinguished champion, without the most strong and irresistible reasons for his conversion.

reference to the different works on the subject will support us in the denial. Currie and Trotter mention many instances of its appearance and most extensive prevalence during the hot weather of summer and autumn, and Armstrong says he has known it to prevail during the greatest heats of summer. 'Tis true, that it prevails almost every winter, more or less, among the poor population of almost all the large cities both in England and this country; but, upon enquiry, it will be found, that those attacked have most generally been exposed to the sources of miasmatic exhalation during the preceding summer or autumn, and having thus acquired a predisposition to disease, the complicated and depressing miseries of poverty and want act as powerful exciting causes, and fever is produced.

We have now finished the subject of these pages; we cannot, however, say to our own satisfaction. We are conscious that much has been left unsaid, the ordinary limits of an essay not admitting of any thing like a wide range of discussion. We have endeavored to cull from the various works on the subject, the most striking and prominent facts bearing on the different subjects embraced in this essay. A considerable portion of it has been devoted to an examination of the different assumed causes of typhus, because we consider the possession of correct notions on this subject a matter of very great importance. Whether the conclusions we have arrived at are correct or not, must be left to the decision of others.

ART. II. *Case of Diseased Sciatic Nerve removed by Excision.* By ROBERT BAYARD, M. D., &c., of St. John's, N. B. Communicated by THOMAS COCK, M. D.

MRS. HICKSON, æt. 40, had been complaining for several years of a pain along the back part of the left thigh, which was soon followed by the appearance of a tumor about three inches below the tuber ischii. In the early stage of the complaint she experienced but little apparent inconvenience from it, as it was accompanied with no increase of pain. She lived in the country, a few miles distant from the town, and frequently walked to and from it, complaining principally of fatigue affecting her more readily than previously to the occurrence of the disease. The tumor gradually increased in size, and, after a continuance of three years, it acquired a size equal to, or larger than, the egg of a goose. For two

years past it made rapid encroachments upon her health, producing great pain in the lumbar and sacral regions and in the whole course of the leg, accompanied with great emaciation, loss of appetite, colliquative perspirations, and restlessness. Her health was so much reduced that, for several months prior to the operation, she was confined to her bed. I was consulted, and saw her for the first time on the — May last, when, upon examination, I was satisfied that the tumor was either an expansion of the nerve itself, or that it intimately involved its pressure upon the tumor, which was in no way discolored, created great pain and numbness from the hip to the toes. The general health of the woman was daily suffering from the disease; I, therefore, adopted immediate excision as the only chance of relief; nor did I hold out much encouragement to the friends, as I apprehended that the diseased action of the nerve might possibly have been continued within the pelvis. I called in the able assistance of Mr. Bell, a surgeon in the 81st regiment. He coincided in opinion with me, that excision, though by no means flattering, was the only chance for my patient. She readily consented to the operation. An incision was accordingly made on the tumor, which was readily exposed, owing to the extreme tenuity of the limb; after the bulk of the tumor was laid bare, and the nerve was exposed as it apparently entered into, and issued out of, the swelling, the nerve itself was found to be very much thickened and enlarged; it was, therefore, traced upwards as high as the tuber ischii and divided, and downward an inch below its popliteal ramification, and these removed. During the operation, the patient lost but little blood—much less than was anticipated. Syncope supervened the division of the nerve; and a state of collapse continued for an hour; after which she gradually revived, and complained of no uneasiness, and of less pain than she had suffered for months past. The wound being dressed, she was placed in bed, under appearances which promised favorably for three or four days, as there was no discharge from the sore, and no return of pain during this period; but towards the end of the fourth and fifth days, the pain in the back, in the region of the lumbar and sacral nerves, became urgent; with great thirst, dry tongue, restlessness, and vomiting, and with a feeble and decreasing pulse. The vital energies gradually sunk, and the woman expired on the sixth day after the operation, apparently from extreme exhaustion. I was unable to determine whether death was the consequence of general debility, increased by the operation, independent of any peculiar effect from the division of so large a nerve, or

whether the disease was continued into the pelvis, as I was prevented from examining the body after death. I was inclined to attribute death to a continuation of the disease along the nerves within the pelvis, aggravated by the division of a diseased portion of it. The diseased portion was immediately immersed in camphorated spirits, which has reduced the size of the tumor, and the upper and inferior portions of the nerve itself. The morbid appearances will speak for themselves. The tumor, although not actually an expansion of the nerve, appears intimately connected with it, and incapable of any separation, without leaving a diseased portion of the nerve; the adventitious and original structures incorporating with each other.

ART. III. *Cases of Disease produced by the Poison of Putrid Animal Matter, with Remarks.* By PHILIP E. MILLEDOLER, M. D., of New York.

ALTHOUGH much has already been done by pathologists in elucidating the subject of animal poisons, yet it must be confessed that it still presents an extensive field for investigation. And, perhaps, no branch of it is entitled to more consideration than that which relates to the absorption of putrid animal matter, and the constitutional irritations thereby produced. This will be readily admitted, when we reflect how many useful lives have already been sacrificed, and are constantly exposed to the deleterious influence of this destructive agent, and also remember that our knowledge of the subject is limited, and, of course, our theories in some measure uncertain and conjectural.

There remain still to be investigated the qualities of this poison—to be explained, how far the varieties of symptoms observable in different cases are to be attributed to an essential difference in the virus absorbed; how far the degree of intensity may operate; what influence certain habits and idiosyncrasies may exert in the production of such modifications; and by what marks these obscure peculiarities of constitution are characterized and may be known.

How different in different individuals, and even in the same person at different times, have been the effect of injuries received in dissection, under circumstances as nearly alike as our ideas of similarity extend!* Observing at one

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* This the author can vouch for. It has occurred to himself.

time an entire exemption from disease, either local or constitutional, when, by means of punctures, incisions, or abrasions, the greatest facilities have been presented for an absorption of poison, from subjects that have died of various diseases, and in every stage of decomposition; while on other occasions, the most violent effects have followed the slightest exposure, and when the least opportunity has been offered for their production. These and other considerations enforce the propriety of a strict enquiry into this subject, and the necessity of a close investigation of facts, upon which alone must be founded all that is correct in theory and useful in practice.

The following cases, differing more or less from any others with which we are acquainted, are submitted simply with a desire that the publication of them as additions to the large assemblage of facts already in our possession may be found useful and interesting to the profession, and advantageous to the community.

CASE I.—On the evening of July 20th, 1829, I was requested to visit Miss P., a young lady about twenty-two years of age, of a sanguine temperament, very florid complexion, and plethoric habit. She is habitually costive. The menstrual discharges are profuse, protracted, and accompanied with some pain.

On Saturday, the 18th, the father of the patient died of a lingering consumption, accompanied, toward its close, with extensive disease of the intestinal canal, producing diarrhœa and bloody mucous discharges, alternating with a copious expectoration of a depraved purulent matter from the lungs. The daughter, as is common on such occasions, was observed to kiss the corpse, having at the time a sore lip deprived of its cuticle.* On Sunday, the 19th, the lip became inflamed and painful, and commenced swelling. On the evening of the 20th, the swelling extended from the right corner of the mouth, involving one half of the upper lip. It was hard, painful, of a deep red color, and had on its most prominent part a small festered surface.

The pulse was frequent and hard, skin dry and heated, and bowels costive. She has had no sleep for the last two nights. The case seemed one in which a phlegmonous inflammation, acting upon a plethoric and irritable subject, had produced a more than ordinary derangement of system. With this view there were applied leeches to the tumor.

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* This fact was mentioned to me on the morning of the 22d, by the patient's brother.

The hemorrhage from the bites was encouraged by warm fomentations. A lotion of warm lead water and laudanum was prescribed as a local application, and the following anodyne administered:

℞ Pulv. Dover. grs. xii.
Antimon. v.
M.

A dose of sulphate of magnesia was directed to be taken early in the morning. The diet to consist of barley water or gruel.

July 21st. The patient is no better. She had slept during the night, and the skin had been somewhat moist. The cathartic has been taken, but has not yet operated. Complains of pain in the right side of the chest, which is accompanied with cough, and appears to be situated externally. This symptom continued throughout, and, as the disease progressed, became very severe.

The following was prescribed:

℞ Aq. acetat. ammoniæ,
Aq. Fontan. aa, ℥iv.
Antimon. tart. grs. ii.
End. quaq. 2d hora. M. Coch. mag. sum.

2 P. M. The salts have operated freely. There appears to be a slight remission. Continue recipe.

In the evening the symptoms are more severe. The fever is increased. Tongue covered with a whitish fur; headache violent; pulse frequent and tense. The tumor is enlarged, of a dark, liver red color, showing no tendency to suppuration; erythema extending around it.

The patient was bled to xvi. oz., which relieved the pains, produced moisture of the skin, softened the pulse, and lessened its action.

Continue recipe. Apply yeast to the part, and a poultice inside the lip.

22d, 7 A. M. Informed that the patient had slept during the early part of the night, and appeared more comfortable. Towards morning all the symptoms have returned with aggravation. The inflammation and swelling now involve the whole of the upper lip, extend upon the right cheek, and downwards upon the lower lip, and towards the base of the jaw.

The venesection was repeated to about xviii. oz., producing at the time a sensible alleviation of all the symptoms. A Seidlitz powder was directed to be taken immediately. The recipe was continued, and the same local applications.

At 9 A. M., I was under the necessity of fulfilling a pro-

fessional engagement in the country, made previous to my being called to visit Miss P. My intelligent and experienced friend, Dr. Gilbert Smith, being apprized of the circumstances of the case, was requested to attend the patient during my absence, to which he kindly consented. Dr. S. was sent for by the family at 2 P. M. At this time the symptoms appeared so severe, and the case so unusual and alarming, that it was deemed expedient to hold a consultation, and Dr. J. C. Cheeseman was called in. These gentlemen saw the patient about 3 P. M. The Seidlitz powder prescribed in the morning having operated freely, an anodyne of solution of sulphate of morphium xxv. gtt.,* with ℥ss. of spts. mindereri, &c. was administered. Yeast was continued to the lip, and diluted alcohol as a lotion to the adjacent parts.

The recipe was continued. In the evening sixteen leeches were applied to the throat, which was stiff and painful; mustard cataplasm to the side.

The blood taken on the 21st and 22d, particularly the last, was much cupped; the coagulum thickly covered with a buffy coat.

23d. The patient is no better; all the febrile symptoms have returned. A dose of submur. hydrarg. was prescribed. Early in the afternoon the warm bath was used, but seemed to aggravate the symptoms; after the bath the anodyne was repeated.

Half past 7 P. M. I visited the patient, and found Drs. Smith and Cheeseman in consultation. These gentlemen attended the case with me twice a day until its termination. Since the exhibition of the anodyne the surface has become somewhat moist; the pulse is frequent and strong, 120 in a minute. It was concluded to administer a Seidlitz powder every second hour until evacuations were produced; after which, to give gtt. v. sol. of morph. with ℥ss. spts. mind. &c. every second hour.

24th. The symptoms are rather more mild. The medicine operated early in the evening; after which she had slept at intervals. There is a slight discharge of healthy looking matter from a number of superficial points on the lip, giving it a cribriform appearance. The tongue is clean at the edges; the centre covered with a brownish fur.

Continue sol. sulph. morph. gtt. v. &c., every second hour. Apply yeast poultice to the neck; yeast to face and lip; barley water acidulated, and yeast and water, as drinks.

7 P. M. Not so well as in the morning. Complains of

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* Equal to sixty or seventy drops of opium.

strangury, for which, spts. nit. dulc. was given. An injection was ordered, to be followed by a Seidlitz powder, if the first does not produce free evacuations; after which, repeat the anodyne of gtt. xxv., &c. Use spts. mind. as a wash.

25th. Symptoms as on the morning of the 24th. There is no abatement of the tumor; its margin is not well defined; has a doughy feel, and is of a mottled red and purplish hue. The erythema is extending upon the forehead and over the scalp—very painful to the touch. Continue sol. sulph. morph. gtt. v., &c.

In the evening the symptoms of excitement have again come on with severity. A Seidlitz powder was prescribed, to be followed by the anodyne.

26th. The bowels have been freely acted upon by the Seidlitz powder. Purgatives, however, appear to afford no permanent relief. The inflammation continues to spread; the left cheek has become suddenly swollen. Continue sol. sulph. morph. gtt. v., &c.

Apply spts. mind. and ether, as a lotion to the face. In the evening the symptoms are much aggravated; head very much affected; pulse very frequent and tense, between 130 and 140 in a minute. The right eye is now completely closed, from the swelling of the lid. Twelve leeches were applied behind the ears, and a blister to the back of the neck. The following was prescribed:

℞ Magnes. ust. grs. x.
Pulv. rhei. grs. xv.
M.

27th. The effect produced by the leeches, &c. was but temporary. In addition to the other symptoms, the patient complains of a burning pain in the lower part of the chest and epigastric region.

A large blister was applied to the parts affectcd. Habeto pulv. antimon. grs. v. quaq. second hora.

At 2 P. M. this was discontinued, as it produced sickness and retching.

6 P. M. No change for the better; the head is very much affected; pulse frequent and tense; other symptoms as on the 26th. It was decided to abstract blood from the arm until an impression was made upon the pulse. This was done, and about xiv. oz. taken, when she expressed herself as being more comfortable. The skin is moist; pulse softer, and somewhat reduced in frequency. Repeat sol. sulph. morph. gtt. xxv.

28th. The blood taken last evening is very much cup-

ped; the coagulum contracted to a very small size, and showing the buffy coat.

8 A. M. The skin is moist and rather cool. The swelling is of a paler color; the pulse is frequent, small, and compressible. Habeto sol. sulph. morph. gtt. v. every second hour, in arrow root or barley water.

2 P. M. Pulse still frequent and small; skin is unpleasantly cool and moist. Give warm wine whey; sol. sulph. morph. gtt. x. every second hour.

4 P. M. Patient is evidently sinking; respiration hurried and obstructed; pulse feeble, threadlike, and very rapid; extremities cold. Warm spirituous fomentations and bottles filled with hot water were applied to the feet. Warm stimulants were given, but failed to produce reaction. The patient continued in this state until 6 P. M., when she expired. The body was not examined.

From a review of the above case, it is evident that the local disease was of a peculiar character. It had neither the unmixed characteristics of simple phlegmonous inflammation, nor of erysipelas, but seemed a combination of both. The appearance about the lip similated at one time a carbuncle, though differing in many respects from the usual symptoms of that disease.

The pulse and appearance of the blood proved the constitutional affection to be of a highly inflammatory character.* The symptoms, at times, seemed to be retarded by the remedies employed.

Is it not reasonable to suppose that, independent of the local affection, there had been absorbed into the system a poison from the dead body, with which the lips of the patient came in contact, and which was the cause of the obstinacy and malignancy of the symptoms? The mouth of the deceased father was filled with apthous ulcers, and the stumps of decayed teeth. It is a common thing for a quantity of frothy mucus to ooze from the mouth after death, which may have inoculated the lip of the patient; or, if this was not the case, the moisture on any part of the surface of a corpse as illconditioned as this was, coming in contact with a raw surface would, perhaps, be sufficient to produce the effect. This is more likely to be concluded, when, from the preceding history, we find that although at times there appeared to be a remission, evidently produced by the treatment, which, un-

* This condition, *Davy* thinks, does not prove imflammatory action always, as he has shown in his experiments on the blood.

der ordinary circumstances, would have been sufficient to check the disease, yet, in this case, there appeared to exist an irritation which soon renewed the violence of the symptoms only to be mitigated by the measures resorted to.

Towards the close of the disease under these circumstances, only one of two plans could have been adopted: either to remain as *expectants* hoping that the *materies morbi* might wear itself out, or be vented in abscess upon some part not of vital importance, in the mean time aiding nature in resisting the effects of the irritation by appropriate remedies; or else to pursue the plan adopted, and by a more active treatment, justified by the symptoms and the effects produced by the means previously employed, to ward off the determination to vital organs, particularly the brain, which was much affected throughout the disease. The latter alternative was chosen, judging it preferable to risk the debility to be expected from the abstraction of blood from the general circulation, rather than the irremediable effects that might be produced if the disease should be suffered to go on unchecked.

I will proceed to relate some facts that came under my observation while resident surgeon of the New York Hospital, and which have some bearing on this subject. Reference is had to two instances in which poison was introduced into the system in rather an unusual manner.

CASE II.—The one was the case of a patient of the hospital, a middle aged man, of sanguine temperament, ordinary stature, a stevedore by occupation. He had been engaged in unloading a vessel, of horns, when he was scratched on the thumb by the ragged extremity of one of the horns, to which was attached a quantity of animal matter in a state of decomposition. The wound, which was very slight, became inflamed, and festered. The inflammation was propagated in the course of the absorbents to the bend of the elbow and the axilla, and continued to extend and spread until the entire limb was involved. The accompanying fever was of a typhoid character, and was treated by gentle cathartics, such as mist. eccoproct., and anodyne diaphoretics. After suppuration was established, he was put upon the use of demarcotized opium, mineral acids, and other tonics. The glands suppurated and were opened, as also several abscesses on the arm and forearm, from which a quantity of illconditioned matter, mixed with shreds of membrane, was evacuated. Yeast poultices were used as local applications. Even after the more immediate effects of the disease passed off, the patient was subject to abscesses forming on different parts of

the body, which were successively opened. After continuing in the house for some months, he was discharged, his constitution being much impaired, and so shattered as never to have recovered its wonted energy. Previous to the accident he had been a vigorous man. Some time after his dismissal, he returned to the hospital, where, I have been told, he has since died of a pulmonary complaint.

The facts alluded to in the other case happened in my own person, and are the following:

CASE III.—On the —, a patient died in one of the venereal wards of the New York Hospital. An erysipelatous inflammation had commenced in the groins, where he had open buboes, in a healing condition, and extended over the abdomen and down upon the thighs. The patient died of peritoneal inflammation. In examining the body after death, a large quantity of puriform matter was found effused in the abdominal cavity. My hands were exposed to this matter, which was very offensive and acrid, in examining the intestines. It was late in the afternoon when the examination took place. On the following morning I felt slightly indisposed, and took a dose of salts, which operated during the day without affording relief. On the contrary, the symptoms increased in severity. A headache, which in the morning was trifling, became much aggravated; the skin was dry and contracted. Throughout the day there was experienced a sensation of heat, not permanent, but alternating with unpleasant chilly feelings. There existed much precordial anxiety and great depression of spirits. Early in the evening my attention was directed to a sense of pain felt in the bend of the elbow and in the axilla; and upon inspection, the glands were found swollen and tender to the touch; red lines were seen stretching from the lower and posterior part of the forearm towards the bend of the elbow, and upon looking at the back of the hand, a small pustule was observed, with an areola of inflammation extending around it.* I was now satisfied that morbid matter had been absorbed, and was producing its baneful effects upon the system. As the hours elapsed, the severity of the symptoms increased; the headache became very violent; much pain was felt in the back and thighs; the condition of the pulse I do not remember; the tongue was covered with a whitish fur; the eyes were intolerant of light. Having bathed my feet in

* I do not believe that there was any scratch on the hand, but that the surface was entire.

warm water, and taken a draught of warm balm tea, I retired to bed. Soon after, the chilly sensations were no longer experienced, but the body became uniformly hot.

About 8 P. M., a medical friend coming in, he was requested to bleed me. After having abstracted a moderate quantity of blood, he was about to desist; I, however, interfered, requesting that the blood might be permitted to flow. This was done, having no definite object in view, excepting that the effect was pleasant at the time; about thirty ounces were taken; while the blood was flowing, and for some time after, the pains were relieved. No sensible perspiration had as yet been effected; with a view to produce it, and relieve my anxiety, which was great, (the headache, &c. beginning to return,) I took an anodyne of tinct. opii. gtt. lx., and ℥ss. spts. mindererus. The draught of warm tea was repeated; soon after, as light moisture was perceived on the palms of the hands, which became general over the whole surface and very profuse.

The relief afforded by this, in connexion with the soporific effect of the anodyne, soon produced sleep, which was undisturbed. In the morning all the violent symptoms had disappeared. Took some mild cathartics, and in a few days felt as well as usual, independent of light debility. The glands remained swollen for some time, but gradually subsided. The pustule on the back of the hand became an ulcer of about the circumference of a pea. It assumed the form of a *hunterian* chancre. It fact, it was the most complete specimen that I ever saw; nothing was applied to it but a piece of soap plaster, and it remained for a fortnight. Fearing lest there might be something specific in its character, I used, for a length of time, a concentrated syrup of the woods, and diluted nitric acid; at the end of the time mentioned, it healed, leaving nothing but a cicatrix, which still remains.

With respect to the treatment of the above case, I am inclined to lay much stress upon the anodyne that was taken after the bleeding. Had the *pain* been permitted to return with violence, being in itself a great source of irritation, especially in a nervous, melancholic temperament, depriving of sleep, and affording an opportunity to the mind to act upon the body, there is but little doubt that the morning would have found me suffering under an aggravation of all the symptoms; the disease would have been more fully established, and its effects more severe, the system, perhaps, being less capable of resisting the irritation, after the exhaustion produced by the large depletion.

Concerning the ulcer on the hand, my present opinion is

that it was merely an irritable sore. The subject from which the poison was contracted, had undergone a full mercurial and alterative course, and at the time the erysipelatous inflammation supervened, there were present none of the characteristics of venereal. From this and other considerations, we have been led to conclude that there do exist other irritations capable of producing the same appearances, that have been considered the peculiar effect of a specific syphilitic virus.

Whatever other conclusions may be drawn from the above case, it teaches practically the maxim of Aristotle, "ἀρχὴ ἡμισυ παντος," which may be applied to the treatment of many diseases with great advantage.

ART. IV. *On the Use of Ergot; with Cases.* By S. W. AVERY, M. D., of New York.

ALTHOUGH not one of those who think that ergot can be commonly used to expedite natural labor without risk, I believe no one who has given it a fair trial can doubt its capability of being occasionally employed to excite uterine contraction with very great advantage. The following cases will show the manner in which I have used it, and, with the exception of the first, with apparent good effect:

February 1st, 1825, I visited Mrs. W., æt. 19, of a full habit and robust constitution, in her first labor. The head presented naturally, and she had no unfavorable symptoms; twelve hours from the commencement the os uteri was nearly dilated, and the external parts in a yielding state, but the pains were short and lingering, and she had become fretful and impatient. I mixed ℈j. of ergot with a little tea, and gave her one third of it; in about fifteen minutes she had a hard pain which lasted longer than the others, but did not occasion much alteration in the situation of the child. She then remained quiet some time, when I gave the rest of the dose, which was soon followed by pain. Upon examination, the uterus proved to be strongly contracted upon its contents. The pulse became full and rapid; the face was first flushed and at last of a purple hue; the extremities were rigidly extended, and the efforts to bear down were so violent as to more resemble a general spasm than labor pains, and she appeared nearly in a state of insensibility. As may be supposed, I began to be alarmed for her safety, but in about twenty-five minutes the child was born, in a state requiring

some exertions to establish respiration, and the mother gradually recovered her sensibility, and was up in a few days.

This is almost the only case among several hundred natural labors which I have attended, in which I have given ergot to hasten the delivery of the child—not feeling justified in interfering where there was a prospect of a favorable issue by exercising a little patience; and where the head has been locked in the pelvis I have given the preference to the vectis or forceps. I do not hesitate to say that nature left to herself undoubtedly would have accomplished her own work in a reasonable time in this instance, and that the ergot was worse than useless; for had the resistance to the passage of the child been materially greater, I am inclined to think it would have been born dead.

In No. 18 of Johnson's Medico-Chirurgical Review for 1828, page 358, is a short analysis of a work published by Mr. Mitchell on difficult cases of parturition and the use of ergot of rye, in which it is spoken of as an article calculated to entirely supersede the necessity of the forceps and vectis; "a safe and efficacious medicine in accouchery cases," calculated to "remove all danger attendant on the woman, quickening and facilitating the delivery," and that invariably "the women recover much better after it than they had done before," &c. &c.

Far from calling in question the correctness of these remarks of Mr. M., who, I have no doubt, wishes to promote the best interests of the profession, I shall merely say they seem to me calculated to encourage the inexperienced accoucheur, for the sake of the éclat of always making a *short job*, to too general use of a very powerful medicine, and to interfere in a process which nature is fully competent to conduct in the great majority of cases. That the ergot given at an early period of the labor, before the os uteri is dilated, or when there exists any considerable obstacle to speedy delivery, may exercise a deleterious influence upon the fœtus, I have no doubt; and this I believe to be the opinion of far the greater number of respectable practitioners in this country. My worthy friend, Dr. Willoughby, professor of midwifery in the College of Physicians and Surgeons of the Western District, whose talents and very great experience entitle his opinions to the highest respect, told me a few years since that he was fully convinced of the noxious effects of this medicine when given too early; and I have heard of several accoucheurs who made great use of it, being accused by the old women of giving something that killed the children. How it does this I shall not attempt fully to explain;

but it appears to me not improbable by interrupting that process which is going on in the placenta, necessary to the fœtal existence. The change elaborated upon the blood in the fœtal portion of the placenta undoubtedly depends upon the free circulation of the fluids of the mother in the maternal part. This is probably in a great measure interrupted during the contractions of the uterus in parturition, but for so short a time as to have little or no effect upon the fœtus; while in that contraction occasioned by ergot, which more resembles the rigid state of the muscles in tetanus than the natural parturient throes, and which I think I am warranted in saying often lasts five or six times their usual length, it seems not impossible that the function of the placenta may be interrupted for so long a period as completely to stop the circulation of the child, particularly when the os uteri is not dilated, or any obstruction is opposed to immediate delivery.

August 7th, 1825, visited Mrs. H., of a relaxed, plethoric habit. Had just been delivered of a full grown healthy child by the natural efforts. In attempting to take away the afterbirth, the funis, which was much smaller than usual, had been broken at the placental extremity, and she had had no pains since the birth of the child. The uterus was flaccid, and the hemorrhage from it such as to be very alarming. Strict rest was enjoined; gentle pressure was made upon the abdomen with a cloth dipped in cold water, and a full dose of ergot immediately given. In a few minutes she complained of pain; the uterus was felt contracting, and the placenta and a quantity of coagular were soon discharged, with an entire cessation of the flooding. At the end of thirty minutes more she still had some uneasiness in the back, and the uterus was felt like a hard ball above the pubis. She was up in a few days.

September 20th, 1826, Mrs. T., æt. 30, of a meagre and rather melancholic temperament, in her first labor. The pains irregular, and the parts dry and unyielding. The pulse being hard, I drew sixteen ounces of blood from the arm, and administered pulv. ip. et opii. gr. x., which procured several hours repose. On awaking, the pains came on regularly with long intervals, and in six hours the breech of a full grown child presented; as the hips descended, the pains were as efficient as usual, but the intervals increased so much in length that she often dozed or slept quietly for several minutes. I began to be apprehensive lest when the shoulders and head were passing the pelvis the child would suffer from compression of the cord, and as the pain subsided which brought the hips without the external parts, I gave

her a full dose of ergot in a little tea. The pain returned sooner than before, and did not cease till the child was born, which was healthy. I attended to the afterbirth as soon as possible, which I believe to be advisable when the ergot is used, and on passing two fingers along the cord found the lower edge of the placenta presenting in the vagina, and the upper portion firmly embraced by an irregular contraction of the anterior part of the uterus directly above the pubis. As there were no urgent symptoms and she complained of a good deal of pain, I did not introduce the hand to dilate the contraction, but gave her an opiate, and after some time removed the afterbirth without much difficulty. She soon recovered.

October 24th, 1827, in the morning, I visited Mrs. K., of a sanguineous temperament; has suffered from leucorrhœa and menorrhagia; mother of eight children; told me she had nearly lost her life by flowing after the expulsion of the afterbirth in her two last confinements, and was in great dread lest at that time it would be fatal to her. I requested her to be composed, and assured her that I would give her some medicine that would effectually prevent all danger of that sort. The labor was accomplished in two hours, and the moment the child was born, she took a dose of ergot in some weak cordial. The placenta came away readily, and she rapidly recovered from her confinement without any attack of flooding.

Same day, at evening, Mrs. B., of very fair complexion, and inclined to be corpulent; in labor with her fifth child, and delivered of a healthy daughter in half an hour after my arrival. As the uterus was slow in contracting, I applied a large napkin folded and dipped in cold water to the abdomen with a steady pressure. The afterbirth came away in about half an hour, and I enjoined absolute quiet. I was now requested to see another female residing very near, and just taken in labor, as soon as convenient, but did not go, having made it an invariable rule never to leave my patients, in the most favorable cases, in less than half an hour, or an hour, after the delivery of the placenta; as I have occasionally known the mother to appear comfortable for some time; the attendants, supposing all to be safe, give their entire attention to dressing the infant and arranging the apartment, when, all at once, she says she is flowing; on removing the cloths, or from some slight effort, there is a deluge of blood —she faints—all is confusion and consternation among the attendants, and without perfect self possession and prompt assistance she may be lost. Half an hour after the delivery

of the placenta I suspected she was flowing too much, and on applying my hand to the abdomen found the uterus considerably distended and the cloths wet with blood. I had prepared a dose of ergot for fear of accident, which was instantly given. The napkin was dipped in cold water again and applied with gentle pressure. She soon had pain; a quantity of fluid blood and clots were discharged, and the hemorrhage ceased immediately. I have had several other cases of this description which it would be but a repetition to relate.

I am far from attributing the uterine contraction in this and similar cases to the ergot alone, as I have often seen nearly the same results from cold and pressure to the abdomen, absolute quiet, &c.; but I am certain the contraction is much less prompt, and not so strong or lasting as from ergot. In abortions with flooding, and most cases of menorrhagia, I am convinced it may be used with the same good effect.

Dominick street, August 16, 1829.

ART. V. *Practical Remarks on Enlarged Tonsils; with a New Apparatus for their Removal, and a Plate.* By ABRAHAM L. COX, M.D.

ENLARGEMENT of the tonsil is an exceedingly prevalent complaint, and is sometimes the unsuspected cause of habitual quinsy, partial deafness, a peculiar guttural change in the voice, and continual difficulty of deglutition and respiration.

In many recent and transient swellings of these glands, no operation whatever is necessary, and in others of considerable tumefaction and inflammation, slight scarifications produce the most perfect relief.

There are cases, however, where, from the frequent recurrence of inflammations, or from some idiosyncrasy of constitution, these tumors become permanently enlarged, and occasion the symptoms already mentioned.

Partial deafness results from the pressure of the glands upon the orifice of the eustachian tube. Difficulty of deglutition is the consequence of the glands being themselves acted on by every attempt at swallowing. This occasions pain and inflammation in the surrounding tissues, and an aggravation of all the symptoms.

Sometimes the obstruction to respiration produces death. I was told by a medical gentleman who saw the patient,

that this result occurred in this city within the last two years. He said that the surgeon, who attempted to remove the swollen gland by a ligature, was forced to desist, in consequence of the patient being threatened with immediate suffocation, when an attempt was made to tighten the noose of the wire. The case was consequently abandoned, and the child became a victim to his disease. Similar danger I once saw, in the case of an old gentleman (perhaps seventy years of age) under the care of Dr. Physick, and my preceptor, Dr. Parrish, of Philadelphia. He came from the country to obtain relief from this disease, under which he had labored nearly all his life. He had paroxysms of difficulty of respiration, in which he appeared to be in imminent danger of suffocation. The glands had become very much elongated, were habitually swallowed, and adhered their whole length to the side of the throat; hence great difficulty was experienced in including them in a ligature. After several unsuccessful efforts, Dr. Physick at length was able to apply it round one of the glands; but the patient appeared in great suffering and danger from the operation. For a long time his breathing was excessively difficult; the face was livid and tumefied; and, though he recovered, to me he seemed to have incurred no inconsiderable hazard of life.

Great constitutional irritation and fretfulness of temper often accompany, in children, this disease; and the development of the intellectual faculties, as well as the growth of the body, is injured from the same cause. It often happens that children who are troubled but slightly in this way, when attacked with inflammatory diseases, as catarrh, scarlatina, measles, &c., suffer so great an enlargement of the tonsils, as not only to leave a very serious complaint, but very much to diminish the probability of their recovery, or greatly to contribute to the fatal termination of the case. Such is the unfortunate situation of a little patient now under my care. He has had scarlatina; but from the increased obstruction to respiration, the difficulty of swallowing, the impediment to the return of venous blood from the head, and the general irritation he endures, I cannot but fear for the result—that he will become a victim to their combined effects.

It is sometimes asked whether it would not be preferable, in children, to trust the case to the spontaneous change which nature produces in the progress of the constitution to maturity; or, in other words, to depend on the child's outgrowing the complaint. It must be admitted that, in many cases where the enlargement exists in infancy, the natural development of the size of the throat removes the glands farther

apart, and prevents that mechanical irritation which, at an early period, they produced on each other. In this way the tumefaction subsides, and perfect recovery follows. On the other hand, as in one of the cases already mentioned, we have an instance of the duration of the disease through a long lifetime, and, in old age, the patient was glad to submit to an operation rendered more severe by delay; and which, if performed in early life, would have secured to him years of health and enjoyment, which were passed in continual suffering and apprehension.

In all cases of doubt about the propriety of removing these glands in early life, where much suffering exists, if it were possible to effect an immediate removal by an operation free from harm and danger, it appears to me that no real objection could be urged against it. Such an operation I wish to recommend to the profession.

In some instances, the spontaneous cure itself is effected by a process most severe, and generally unsuspected, viz. the entire removal of the glands by frequent suppurations. A lady whom I know, was subject to severe and repeated attacks of quinsy during the early part of life. Abscesses formed in the throat, and were permitted to break. Her sufferings were indescribable, and were renewed by every change of weather, during five or six successive winters. No efficient treatment was, at any period, adopted; but, after this time, she was entirely exempt from her suffering. The present state of her throat explains perfectly how this result was effected. The space between the lateral half arches, occupied by the tonsils in the natural condition of the parts, is perfectly smooth. There are no remains of these organs. They have been ulcerated away; and the disease has thus painfully and tediously effected what a skilful operation would have done instantly without danger.

In another instance, where a patient had, during every winter, suffered from severe quinsy, the operation performed by the ligature on her tonsils produced complete immunity from further disease. This lady, a wealthy and respectable woman, assured the surgeon that, besides all her suffering during the preceding ten years, it had cost her, in doctors' fees, nearly one thousand dollars.

The usual methods of effecting the removal of the tonsils, are by the ligature and the knife.

The first method is unaccompanied by the danger of hemorrhage, but every modification of this plan is excessively painful. It is, also, not free from the liability of causing suffocation, particularly in the very cases where the

operation is most necessary; that is, where suffocation is threatened by the disease itself. In many of these instances, it is positively inadmissible. The pain occasioned by this process is, by no means, a small objection to it. There is no charge made against the character of a surgeon more dishonorable to him, than inhumanity in the wanton and brutal infliction of unnecessary pain. It would be an improvement in this branch of our profession, to rob every operation of its honor; and obtain the same splendid and salutary results without the agony and the danger which now necessarily accompany, in a greater or less degree, *every* surgical operation.

There are other objections to the use of the ligature in the removal of elongated tonsils. Several days elapse before each tumor sloughs away, and is removed from the throat. During the time that the putrefying mass occupies the fauces, an unhealthy and fetid fluid distils from it, and is liable to pass into the stomach, particularly during sleep. It injures digestion, and destroys, for some time, the health and comfort of the patient. Another inconvenience results from the ligature. The application, if made tight at once, is not capable of destroying the vitality of the whole mass. A considerable depth of surface is killed, and the absorbents remove it; but there remains still, in the centre, a projecting body, which it had been better to have removed at once, if possible, as it may still be the occasion of irritation, or the seat of future inflammations and disease.

The second method, by the knife, is less painful; but the danger of hemorrhage from the use of an unguarded bistoury, in a vicinity so vascular as the throat, agitated, too, during an operation by involuntary spasm, and where a ligature cannot be applied, though authorized by Bertrandi, and successfully practised by Dupuytren and others, is still by many, and, perhaps, the majority of the profession, very properly condemned. Fatal results have occurred from it, and I have been told by two gentlemen who have used it, that in both cases the actual cautery, (a most horrid and objectionable expedient, especially in the throat,) was the only thing which, in their opinion, prevented a fatal hemorrhage.

In consequence of objections to the usual methods of removing tonsils, several ingenious instruments have been introduced in order to apply the knife without injury to the adjoining parts. One of these, invented by the venerable and judicious Dr. Physick, is communicated in the American Journal of Medical Science, for February, 1828. Dr. Caleb

B. Matthews, in the American Medical Recorder for April of the same year, has given to the profession another most ingenious apparatus. It is not my intention to institute a comparison between these instruments and my own. They both obviate one great objection to the unguarded knife. The operation with them secures the truncation of the tumor, which is the proper method, while the surrounding parts are protected from any inadvertent injury. But whoever seizes the tumor with a hook, and proceeds to remove it with an unguarded bistoury, besides endangering the neighboring parts, will be likely to extirpate the whole gland, and thus necessarily cut the trunk of the artery which supplies it, before it has begun to ramify in its substance. Hence copious hemorrhage will necessarily result, and the actual cautery must be used.

There is one aspect in which the instruments before alluded to appear to me somewhat objectionable. They both take from the hand of the surgeon the proper guidance of the knife, and commit it to the operation of machinery. There are many possibilities in surgery which may require the motion of the knife to be modified in direction, force, &c., and to me it appears that no human contrivance can ever suit so admirably all the emergencies that may occur in an operation as the hand of the surgeon. It is, therefore, desirable in the introduction of new surgical instruments, to supersede as little as possible the use of that divine invention, the human hand.

Dr. Matthews does not say that he has performed any operation with his instrument, and though constructed on correct principles, it may, from a variety of causes, be utterly useless in practice. It is always desirable to know whether a new invention can be used; and this can never be absolutely decided, until it has been tried. The ligature has never but once been used by me in this case, and such was the suffering endured by my patient, as to induce me to attempt some less painful means. The result of a great deal of attention to this subject is now submitted to the profession in the instruments of which a plate and description are annexed. Twelve operations enable me to recommend them with confidence for their practical utility, and though several were performed with defective apparatus, yet there has never occurred any thing to weaken my confidence in the plan. Every operation has succeeded, and, indeed, has given instant relief. There has been no hemorrhage, nor have I ever been obliged to use astringents.

A few cases will, perhaps, best illustrate the facility with which relief can be afforded to the patient suffering with enlarged tonsils.

Case I.—I was called by S. F. Randolph, Esq., April 26, 1828, to see a relative of his from the country, a boy of nine years old, whose tonsils completely filled the throat, pressing forward the uvula. The usual symptoms were all present, and he had not for three months been able to swallow a mouthful of animal food. His general health was still unimpaired. For the first time, I used my new instrument, in the presence of Dr. Alexander H. Smith, formerly my student, and Dr. Seaman. The right tonsil was included in the ring and completely filled it. The knife was made to follow the groove, and the tumor, as large as a pigeon's egg, was thus cut through without delay or difficulty. The operation was only momentary, and the little patient assured us that it was not painful, and complained only of the presence of the instrument in his throat, which induced efforts to vomit. There was only a little bloody saliva discharged. His breathing was immediately relieved, and he partook of animal food at dinner for the first time in a quarter of a year. No medicine or restraint whatever was directed, or at all necessary.

On the 29th, I removed the other tumor in the presence of Dr. C. C. Blatchley. Deafness, unnatural voice, difficulty of swallowing and breathing, and habitual sore throat, have, by this simple process, been immediately and permanently relieved.

Case II.—On the 30th December, 1828, I was called to see a son of the Rev. Joshua Leavitt, of this city. He had large tonsils, which filled his throat, and for four years had prevented him from the use of animal food, a circumstance the more unfortunate, as he was of a scrofulous diathesis, and was rendered nervous and delicate by this privation. He labored under all the usual symptoms of this disease in an aggravated form. His father had consulted the late Dr. Nathan Smith, of New Haven, who declined the use of the ligature from the extreme delicacy of the child's constitution, and the severity of that operation. I removed the tumor on the right side in a few seconds, in the presence of Dr. Gilbert Heston; there was no hemorrhage. The little fellow (being a politician) fixed the fourth of March for the removal of the other swelling. In the mean time, his father called on me to give me this information, and stated that such was the relief his son had experienced from his former severe suffering, that were it necessary to its continuance he would will-

ingly subject him to the operation every month as long as he lived. On the day fixed for the removal of the second tumor, Drs. Bailey, Tomlinson, Torrey, and Ives were present. It was done in a few seconds, and the tumefaction having subsided since the first operation, it bled two or three drachms. This has been invariably the case in removing the second tumor. The irritation occasioned by the presence of the first being taken away, the other gland diminishes in size from absorption of the matter deposited during inflammation in its cells. The vessels bleed more freely, because the removal of this interstitial deposite permits the expansion of their mouths. It was very surprizing to me to observe no hemorrhage from the largest and reddest tumors, while the smaller were invariably both more difficult to cut, and discharged more blood; but on a little reflection it appears to be natural and easily accounted for.

Case III.—February 24th, 1829. I was called by my friend, Dr. Downs, to see a little boy not nine years old, son of Mr. Townsend, near the Dry Dock. He had been nearly his whole life subject to swelled tonsils, and had suffered severely from them, but was thought by his friends to be in danger of immediate suffocation during the preceding night. The tumors not only filled the throat, but pushed forward into the mouth. I removed the right tumor in presence of Dr. Downs and Dr. Marvin. He was immediately relieved, and his throat on that side appeared unobstructed. On the 27th, I was sent for to see him; suffocation again threatened him. I found another tumor occupying the place from which the first was taken. It was removed with immediate and permanent relief. It is evident that in this case the tumefaction had separated each tumor into its two lobes. The anterior lobe was forced forward on each side, and the posterior one backward, because there was no room for them to swell across the throat, or in any other direction; hence they were torn to their base, and divided into two. After the first operation, the posterior lobe was out of sight for some time, and when removed, it bore the mark of having passed three quarters of an inch down the throat beyond its base. On the removal of the first, this came forward in one of the violent efforts of the parts and occupied its place, occasioning the removal of all the severer symptoms. From this case I have been led to draw two inferences; first, that the unavoidable tumefaction produced by a ligature would have caused death by strangulation; and second, that an unguarded knife where the tumors were so low down and the mouth and throat so exceedingly small, would have been not only highly dangerous,

but almost certainly fatal. On the 13th of March, I removed at one operation the two tumors formed by the separated lobes of the tonsil of the left side. They were taken away together, and were much smaller than in the former cases. They bled more than the first, but not more than two drachms were lost. I saw this patient in July; he was quite a different child; from a puny and delicate boy, remarkably small for his age, as he was in the winter, he had become uncommonly robust and healthful in his appearance, and his parents say that the operation constitutes an era in his life, since which he has been as remarkable for entire health as he was before for the entire want of it.

Description of the Instruments. The apparatus consists of several oval rings of different sizes, all adapted to a common handle, and two knives; to each ring is soldered a silver stem of one inch in length, with a screw at its extremity by which it is attached to the handle. The stem and handle make an obtuse angle with the plane of the ring, (figure 1,) and are thus prevented from interfering with the motion of the knife during the operation. On one face of the ring is a dovetailed groove, having the aperture widened near the stem, (at *c*,) to admit the beak of the knife, which slides easily along the groove, from which it cannot be extractcd at any other part.

The knives resemble each other, with the difference that the beaks are placed on the opposite sides of the blade, (figures 3 and 4.) They are of the same length with the other instrument, viz. about seven inches. The handle and blade are of equal lengths; the cutting edge extends about an inch and a half from the point, and is concave. The beak (*d*) consists of a small piece of steel, of the shape of a pin's head, attached at right angles by a screw to the side of the end of the knife, and is adapted to move easily in the groove (*e*) on the face of the ring.

Directions for performing the operation. In performing the operation, the first object is to ascertain which ring will most exactly receive the tumor; this is to be screwed to the handle. The patient to be seated in a good light. The surgeon requires no spatula to depress the tongue. The ring may be used for this purpose until the tumor is seen. It should be then applied round it, taking care to keep the grooved face towards the cavity of the throat; then taking the knife whose beak is properly situated for the side on which he operates, the operator introduces the beak into the wide part of the grove, (*c*.) The knife should then be passed along the groove firmly upwards and onwards, till it reach the opposite

side of the ring, when its point must be pressed downwards, and thus round towards its starting place. The tumor falls into the mouth, and, by a little adroitness, may be brought out with the instruments.

The Scissors are for removing the extremity of the elongated uvula, and are decidedly the best instrument for the purpose. A plate of a similar pair may be found in S. Cooper's First Lines of Surgery, vol. 1, p. 528, New York edition.

It is due to the ingenious artist, to whose skill and perseverance so much of the success of this invention is owing, to state that, after an assurance from several of the absolute impracticability of making the instruments, owing to the difficulty of turning the rings, they were first perfected by Mr. John Wiegaud, then of this city, since removed to Philadelphia. The workmanship has been universally pronounced, by competent judges, to be at least equal to any thing of its kind.

Explanation of the Plate.—Fig. 1. The instrument, by the ring at the end of which, the tonsil is surrounded, and held during the operation.

(*a*) The point at which the silver stem is screwed to the handle.

(*b*) The place where the silver stem is soldered to the ring at an obtuse angle.

Fig. 2. The tonsil knife for the left side.

(*c*) The termination of the cutting edge, which is concave to the point.

(*d*) The beak adapted to the groove on the face of the ring.

(*e*) The groove which conducts the beak of the knife around the tonsil. It is here a little widened to receive the beak.

Figs. 3 and 4. Profile views of the beaks at the ends of the knives.

Fig. 5. A convex edged knife, (on some accounts not so good as the other.)

Fig. 6. A pair of scissors with a transverse extremity to one of the blades, for removing a portion of the elongated uvula.

ART. VI. *Case of Fungus Hæmatodes.* By E. PIERCE, M. D., of Athens, N. Y.

ON the 15th March, 1829, the reporter, for the first time, was called to J. A. V. L., aged 30, whose right arm had been diseased since the early part of the preceding autumn. Six

years before, a tumor of a schirro-sarcomatous character, weighing about one pound, had been removed from the opposite arm by Dr. S. White, of Hudson. This tumor occupied the upper and inner portion of the arm, was deeply imbedded between the biceps and triceps muscles, having a firm attachment to the bone. The humural artery was thrown from its natural situation between these muscles, and presented itself on the surface of the tumor through its whole extent, from the middle of the arm to near the axilla. The wound healed kindly, and the patient enjoyed perfect health till the last fall.

As a fact that may have some bearing on the question of hereditary predisposition, it may be interesting to state that the grandfather of this young gentleman died, some forty years since, of what was said to be a cancer of the eye. Whether genuine cancer, or fungus hæmatodes, the reporter has no means of ascertaining.

On examination at the time of the first mentioned date, a tumor was found on the right arm, occupying the space from just below the insertion of the deltoid muscle to the middle of the forearm, largest at the elbow joint, where its circumference was sixteen inches. The skin, over the parts affected, had, in some places, a natural appearance, but in most was discolored, presenting, in three distinct points, appearances of inflammation with unequal development. These points were, one on the inner side at the bend of the arm; another on the outside, directly over the ulna, its centre about two and a half inches below the olecranon, and, as the forearm was a little flexed, this point formed the angle; the third was on the under side of the arm, over and below the inner condyle. The tumor, generally, was hard and unyielding, and the veins enlarged and ramifying over its whole surface. The prominent points were less hard, and, to the touch, communicated a feeling of elasticity, somewhat resembling the indistinct fluctuation of deep seated matter. The joint admitted of no voluntary motion, and very little could be given it by the examiner. The olecranon, as well as the external condyle, could be distinctly felt; but the inner condyle could not be distinguished, owing to the last described prominence occupying this portion of the joint, and extending downwards.

General health not much impaired; appetite tolerably good; bowels regular, and has less pain in the affected part than formerly. As the tumefaction has rapidly increased since the subsidence of pain, it is probable that the fascia aponeurosis has burst at the prominent points,

relieving the pain by allowing a more free expansion of the tumor. From the commencement this disease had been considered rheumatic, and treated with various stimulating embrocations, ung. tart. ant., &c.

After a careful and thorough examination, the patient was apprized that the nature of his disease had, probably, not been understood; that, from present appearances, and from the history, so far as related, fears were to be entertained that it was a case of fungus hæmatodes. At the same time, the character of this disease and its fatality were explained, and amputation advised as the only remedy. In farther conversation, the reporter expressed a hope that his fears might not be well founded, said he had never seen a case of this rare disease, and judged only by his recollection of cases reported by surgical writers, and concluded by recommending, as the best counsel in this section of the country, that professors S. White, and S. P. White, of Hudson, be called as soon as practicable.

March 16, saw the patient, in consultation with the Drs. White. The fears which had been expressed yesterday, were confirmed by the opinion of these gentlemen. Dr. S. White advised that preparations be made for amputation; that an incision be made in the prominence below the inner condyle, for the purpose of ascertaining, beyond all doubt, the nature of the tumor, and if of the kind suspected, to proceed, without delay, to remove the arm. The system, generally, as well as the limb, was in a good condition for the operation. The glands in the axilla, and all the parts above the insertion of the deltoid muscle, were in a sound state. The patient, at this time, would not consent to the operation; and, as his medical advisers had no confidence in any other means, the cure was left to nature.

March 31, have seen the patient at intervals of two or three days, ever since the last date. The swelling has been gradually increasing; the soft points developing, and the sense of fluctuation becoming more distinct. At this time, the point at the bend of the arm seems nearly ready to burst the integuments; and the patient has, for some days, been extremely anxious that it should be opened. This has been the advice of several practitioners who have been in attendance for the last two weeks, though not in company with the reporter, except by accident one was met this morning. In conversation with him, ascertained that it was the opinion of himself and associates, that the disease in question was scrofula, though two of them, only a few weeks before, had been treating it as rheumatism. By these advisers, the

patient had been encouraged to expect a cure, and, on the question of amputation, his mind had been made easy by assurance that, if ever necessary, it might be resorted to at a very late period, when all other means had proved ineffectual. This morning, on being again requested to open the prominence, which seemed most ready to this discharge, the reporter repeated his former remarks, that, in fungus hæmatodes, the longer the integuments remained entire the better; but as it was fast ulcerating, he would then consent to make the opening. Before, however, this was done, the patient and family were told, in presence of his medical consoler, that but little discharge was to be expected, and probably none of *healthy pus;* that the operation was resorted to, less with the view of giving relief to the arm by the discharge which might follow, than to satisfy him and his advisers in relation to the nature of the swelling. If fungus hæmatodes, but little except blood would follow the lancet, and the consequence would be a more rapid growth of the tumor; and if scrofula, as others had pronounced it, by their own concessions, the discharge would be profuse, followed by a reduction of pain and tumefaction. The arm now measured eighteen inches.

As the point of the lancet entered the skin, there was a flow of about three ounces of a thin adhesive serous fluid. On pushing it nearly half an inch deeper, an ounce or more of blood followed the lancet, mixed with the fluid above mentioned, when the discharge gradually ceased. A slip of adhesive plaster was thrown over the opening, and the poultices again applied. The medical adviser present, expressed himself satisfied as to the depth of the puncture, and agreed with the reporter, that it was inexpedient to open either of the other soft prominences. The patient and friends were now told that there could remain no doubt that the disease was fungus hæmatodes, and that the question of amputation was one on which he ought immediately to decide. If perfect confidence was not acceded to the opinion of the reporter, supported as it was by the respectable authority of the Drs. White, the patient was advised to consult the first surgeons of the city of New York. The boats had now commenced running, and the patient's health and pecuniary circumstances admitted of this resort.

April 12th. More than a week has elapsed since the reporter last saw the arm. Dr. —— in the mean time having taken charge of the patient, adhering to his former opinion that the disease was scrofula, and assuming the entire responsibility by promising a cure. Called today for the pur-

pose of observing the progress of the disease, and was fortunate enough to be there a moment after Dr. —— had made another opening about an inch and a half from the first, in the same prominence, but in a more dependant situation. From this opening was discharged principally blood and serous fluid mixed with a small quantity of matter of somewhat a purulent appearance. Passed the probe from one opening to the other. The tumor had increased in its circumference, and had also extended both upward and downward. The hand was œdematous.

April 17th. Saw the patient today by his request. General health much impaired; swelling and inflammation has extended to the shoulder, involving the glands in the axilla. Greatest circumference of the arm also increased; prostration of strength, profuse perspirations, &c. As the only proper time for amputating had now passed, the subject was not again proposed to the patient. Take sulph. quinin. and wine.

April 25. Since the last date little alteration has occurred. There is a regular hectic fever, with gradual prostration of strength. The inflammation in the course of the absorbents is subsiding, and the swelling is more concentrated about the bend of the arm; the hand is less œdematous, and the discharge from the orifices has considerably increased. Two more openings now exist; one was made with the lancet over the inner condyle, and the other has occurred by process of ulceration. The matter discharged is thin, and extremely fœtid. Size of the tumor still increasing, and now measures twenty inches. All the orifices bleed readily on the least touch with the finger or probe.

May 3d. The prominence below the elbow, which has been gradually increasing, was opened today by the physician under whose immediate care the patient has been since the first April. Nothing escaped but blood. The probe passed down to the ulna (three or four inches) with no more resistance than a clot of blood or mass of brain would oppose, and the resistance was no greater in any direction through the whole substance of the tumor. Discharge continues from the opening over the inner condyle with increasing fœtor; color more dark and muddy, sweating profuse, with increasing emaciation.

May 9th. Today there was a hemorrhage from the opening first made, and some six or eight ounces of blood lost; restrained by compress and bandages. Frequent nausea, with viscid and tenacious phlegm in the throat and fauces; increasing debility with oppressed respiration. At the re-

quest of the family, the reporter again took the daily charge of the patient.

May 14th. Since the last date the weather has been cool, and the patient, after recovering from the first shock of the hemorrhage, has rather recruited, complaining less of nausea and oppressed respiration. Takes freely of the quinine and wine. Size of the arm twenty-one inches. Discharge as last described.

May 20th. Today, hemorrhage from the ulcer over the inner condyle, mixed with the discharge from the abscess. Only a few ounces lost. The patient's strength has been gradually but constantly declining for the last week, and this evening seems nearly exhausted. There has been since the last date occasional oozing of blood from all the openings, which are rapidly enlarging from the absorption of the cuticle. The place of the absorbed skin is occupied by a spongy substance covered by thin layers of a cellular tissue, and this substance in some places is more prominent than the surrounding skin. This is particularly observable of the two first openings made, and which now form but one of about three inches in diameter. Here the morbid growth projects half an inch above the edge of the integuments bordering it. The whole extent of the tumor has been for some time gradually softening.

May 21st. The patient expired this afternoon, after a sudden hemorrhage with loss of twelve or sixteen ounces of blood. Coldness of the extremities, laborious respiration, and a sense of fainting had been increasing through the day, and death was hourly expected when the hemorrhage occurred.

Permission was obtained for post mortem examination, and notes of invitation forwarded by the reporter to each of the practitioners who had been consulted in the case. The artist Browrie was employed to sketch the morbid appearances, which was neatly and accurately done, before and while the medical gentlemen were assembling. This drawing accompanies the report, and exhibits the morbid appearances from different views of the diseased arm, both separately and in connection with the trunk and other arm. The appearances of different sections of the tumor are also represented.

Sectio Cadaveris—fifteen hours after death. The examination was conducted by the reporter, assisted by Dr. ——, (who had formerly undertaken the cure under the name of scrofula,) a younger son of Dr. S. White, and two other medical students; professors White not being able to attend.

A longitudinal incision was first made through the whole length of the tumor passing through the middle of the large and protuberant spongy growth, described in the notes taken on the 20th instant, and by repeated strokes of the knife was carried down to the bone. The surface of this section could not be better described than by saying it closely resembled a longitudinal section of one of the hemispheres of the cerebrum, with the order of color reversed. The external part, for some inches in depth, resembled the medullary portion of the brain, both in color and consistency; color, perhaps, not quite so white, and consistency a little harder. The finger could, however, be pushed into any part of it with the greatest ease, and with no other obstruction than the cellular bands, which pretty freely intercepted each other throughout the whole mass. The resistance which these opposed was, however, easily overcome by the finger. The deeper seated portion strongly resembled the grayish cineritious color of the cortical portion of the brain. The muscles could not be seen, except at the extremities of the incision, and here they had a pale flabby appearance. Throughout the whole mass of the tumor, the muscles with their fasciæ were entirely converted into the brainlike substance above described. Occasionally a shade of the original muscle could be seen, but on touching it with the finger, the same soft, oily sensation was felt, as communicated by the other parts of the tumor.

A large abscess was found on the inner surface of the humerus and ulna, destroying the capsular ligament of this joint on the inner side, and denuding both bones of their periosteum for some distance. The capsular ligament of the radius, and also of the olecranon, was diseased, thickened, and softened. The abscess had discharged from the ulcers A and B, figure 2, but principally from the latter. The cellular substance beneath the skin was destroyed by the matter passing around the fungus from the abscess to the ulcers. A quart or more of a bloody, watery fluid was discharged since death, diminishing slightly the size of the tumor.

A lateral incision was also made, crossing the first at the prominent point. In this incision the cellular bands were more distinctly seen. The large prominence on the outer surface of the ulna presented, on examination, the same general appearances as already described. One or two small abscesses were found in the course of this incision, having no communication with the external opening made on the 3d instant.

Though there was not that rapid protrusion of fungus from the openings when first made, which is usually described in

fungus hæmatodes, yet from the constant and regular growth of the tumor from the commencement to its fatal termination; from its readiness to bleed when touched; from its almost constant oozing of blood for the last week; from the rapid protrusion of the main prominence for the few last days; from the repeated hemorrhage; and, finally, from all the appearances on dissection, there cannot, in conclusion, remain any doubt that this was a case of fungus hæmatodes.

ART. VII. *Two Cases of Disease and Dissection in Old Age.*

By A. L. PIERSON, M. D., of Salem, Mass.

THE following cases are interesting in several points of view, but especially as illustrating the observations which must have been made by many, that age is a comparative term when applied to the human body, and that one man's organs wear out in sixty years to a greater degree than another's will be found to do in ninety. This, of course, is owing to diversity of original formation, of occupation, of habits, and, especially, of temperaments and passions. The first case also shows, that imperfection may exist to a great degree in the structure of vital organs, and not be incompatible with the enjoyment of vigorous health. The subject of the first case was a person of large stature, athletic frame, and vigorous intellect, who had passed the principal part of his life in scenes of high political excitement; was ardent, fearless, and indefatigable. His eminent services and patriotic virtues will be long remembered in the history of our country. To a system of uniform temperance, he added the practice of brisk exercise in some laborious employment in the open air. To these means, and to the inheritance of a sound constitution, he was indebted for the possession of health, almost without interruption, until the occurrence of the short disease which terminated his life. He said in his last illness, that the last occasion on which he had taken medical advice was at the siege of Yorktown, at the close of the American war.

The subject of the second case was a remarkable instance of uniformity of life, of temperance, moderation, cheerfulness, and a remarkable freedom from all corroding cares and the excitements of passion. He was rather below the middle stature, and his principal exercise was walking, which he used daily till the last year of his life.

CASE I.—On the fourth of January, 1829, T. P., aged 84,

the subject of the following case, became chilled with the cold, which was intense, in attending divine service. Immediately commenced a loss of appetite, and wandering pains in the bowels; this was partially removed by laxatives and abstinence, but was renewed again by an imprudent exposure and improper food; and on the 19th of January my attendance was requested. At this time, there was a degree of abdominal pain, and the evacuations of the bowels were unsatisfactory; the tongue was thickly coated with a yellow fur, and the pulse somewhat full and a little irregular. There was considerable thirst; little or no heat of the skin; and the muscular strength was not perceptibly impaired. There was no cough, nor did it occur at any period of the disease. This was probably owing to the fact, that the function of the lungs was not *impeded*, but wholly destroyed, by the effusion, and that the inflammation only attacked the costal pleura. There was some degree of improvement for several days, under the use of purges, and the administration of a small dose of submuriate of mercury, with antimony and opium, every four hours. On the night of the 22d, there was some pain in the region of the heart, and he found his breathing easier in the erect posture, or rather leaning forward, than while in bed. The pain was not relieved by external applications, and by evening on the 23d became intense. He was bled to ℥xiv., and leeched about vj. more, with complete relief of the pain and orthopnœa, which did not return. The pulse had now become increased in frequency and irregular in the highest degree. The respiration became more frequent and the muscular strength became rapidly prostrated. There was inability to lie on the left side, the easiest position being upon the back. During the remainder of the disease, the frequency and feebleness of the pulse increased, the difficulty of respiration was augmented, the impulse of the heart was very great and gave a visible motion to the whole thorax; the vital powers continued rapidly to decline till the morning of the 29th, when death took place without a struggle. The mental faculties, apparently, were not impaired for a single moment during the disease.

Examination six hours after death. Left side of thorax more full and prominent than right. On raising sternum, four pints of yellowish serum, with strong urinous smell, were found occupying left side of the thorax, and pressing lung of that side towards mediastinum; a considerable quantity of loose flocculent lymph was mixed with the serum.

The pleura costalis was highly vascular, and of a deep pur-

ple color throughout. At the lower part, bands of coagulable lymph, of a soft consistence, united the pleura costalis to the pericardium and the pleura of the lungs. In all other parts, the pleura pulmonalis exhibited but slightly the marks of inflammatory action.

The left lung much compressed and diminished in size; the superior lobe of the left lung crepitated naturally; the principal part of inferior and middle lobe solidified and heavier than water.

The heart small; the pericardium adherent throughout to the surface of the heart; a portion of the size of a dollar over the upper part of the left ventricle connected to the heart by a thin layer of bony matter; a small portion of fat at the apex; the walls of the heart were of a natural thickness, but darker colored than natural.

The right cavities of the heart were apparently natural; the lining membrane of the left auricle was natural, but portions of bone were found in the muscular substance, and one portion, the size of a filbert, near the base of the auriculo-ventricular valves. There were small points of ossification in the semilunar valves of the aorta, and at the commencement of this vessel.

The right lung was adherent throughout its whole extent, but without any appearance of recent inflammation. The superior lobe of the right lung contained portions of gritty, bony matter, mixed with much black, pulmonary matter.

The peritoneum, covering the bowels, exhibited slight increase of vascularity, and was of a darker color than was natural.

The omentum was natural, and contained but little fat.

The liver was of a lighter color than was natural, more hard, and surface granulated.

The spleen was natural.

The large intestines were contracted, and contained fecal matter in lumps. The mucous coat of the small intestines was covered with thick, tenacious mucus. Beneath the mucous coat the bowels were thickly studded with small granular, purple bodies, perhaps mucous glands. These, when cut into, nearly resembled coagulated blood.

The coats of the bladder were thickened, and prostate gland was unusually large.

The descending aorta was much ossified, and the internal iliac arteries were completely converted into bony tubes.

CASE II.—E. A. H., the subject of the following case,*

* This case has been published in a biographical memoir of the subject

passed his hundredth year in the enjoyment of his usual good health. November 24th, 1828, on returning from a short ride, he received an injury in his right leg in getting out of the carriage. The iron step struck him just below the knee, and turned down a triangular flap of skin of about two inches in length, an accident from which he was some time in recovering. After this period his health visibly declined, although he continued to exercise nearly as usual until the 25th of January, after which time he ceased to go out. About the close of November he began to experience pain about the region of the stomach, which for some time had a diurnal exacerbation at about 11 o'clock, A. M., with occasional hiccough. This pain destroyed his usual cheerfulness and spirits, for an hour or more of each day, after which the depression passed off and his usual serenity returned. His pulse was not remarkably altered, except occasionally intermitting; a phenomenon which was common during several of the last years of his life. On the first of March he went into his chamber, although on that day he retained enough of vigor to dress himself as usual. From this time he was principally confined to his bed, and his appetite greatly diminished; but with the diminution of appetite, and consequently of food, the pain of the stomach abated. About fourteen days previous to his death, he was attacked with pain of the lower extremities, principally in the heel and great toe of the left foot. After five or six days of this pain, the skin of the parts most pained grew darker than natural, and at length complete sphacelus took place, ultimately extending to the knee. About a week before his death he suffered pain of the extremities in an intense degree, and on this occasion, in the course of twelve hours, he took 40 drops of acet. opii., which he bore well, and which had the effect of producing comparative ease. He now felt conscious that delirium was approaching, and mentioned that he should lose his senses, and had occasional periods of delirium till his death, which occurred at six o'clock of Tuesday, the 31st of March. On the Sunday previous to the day of his death, at ten A. M., he was raised in bed to discharge his urine, which he was not able to accomplish, and in four or five minutes fell back exhausted. Stupor immediately supervened, and he remained with his eyes partially closed, and unable to speak or swallow; the left side paralyzed, the right hand and arm frequently in motion, pulse hardly perceptible.

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of it, the venerable Dr. Edward A. Holyoke, which has probably been met with by few only of the readers of this Journal.

The following are his own memoranda in referring to the state of his health for some time previous to his decease:

"I am now (February 9th, 1826) between 97 and 98 years old, and enjoy good health, excepting now and then a cramp in my lower extremities, which I have always been subject to, and the complaint I now attempt to describe.

"About ten or eleven years ago, I found that in walking I was apt to lose my equilibrium, and sometimes to stagger like one intoxicated, particularly if I looked up to see the town clock, or how the wind blew, in doing which I have several times nearly fallen to the ground. This complaint gradually increased.

"About two months past I perceived an odd and unusual sensation in my head when I suddenly changed my posture, which to my feeling was as if a moderately ponderous fluid fluctuated over the surface of the brain, and when I turned in my bed, I felt, as it were, a fluid flowing from the side I had been laying on, to the other side of my head. And when I sat up in bed, after having been awhile on my left side, I felt as if a fluid floated over to the right, and carried my head with considerable force along with it. When I lay my head down on my pillow at night, I have a sensation like what I suppose would result from the pressure of a fluid flowing down to the back of my head, and crowding it down hard upon the pillow; this sensation of crowding continues but three or four seconds, after which I feel no more of it till I alter my posture.

"One morning in November last, upon getting out of bed, the impetus of the fluid (if there is one) was so great as to throw me on the floor, though I exerted my utmost endeavor to keep myself on my feet; since which I have been more on my guard, and though I have never since been thrown to the ground, I have twice since been thrown into a chair which stood by the bed side, which saved me from falling. While I sit still I feel no complaint, but every sudden motion of the head is apt to produce a trace of it.

"This fluctuation, which never lasts more than a very few seconds, is not attended with the least degree of pain, nor any loss of consciousness even for a moment, nor am I sensible that the faculties of my mind are injured or affected by it, in the least; nor have I ever perceived any gyratory motion such as vertiginous patients complain of.

"Presuming that in order to our walking steadily it is necessary that the cranium be completely filled by the brain, and observing that persons greatly advanced in age were apt to walk unsteadily, to lose their balance, to stumble and fall, as is the case with me, I am led to suspect that the brain in such

subjects becomes shrivelled and contracted, and that from this cause a vacuity takes place.

"And may not a fluid be lodged between the dura and pia mater, without injuring the functions of the brain, if it be not so accumulated as to compress it?

"When I first felt the fluid, it seemed as thin as water, and to shift its place as quickly as water would, but lately it appears in less quantity, and as if more viscid, and longer in passing from one side of my head to the other.

"I would observe further, that from my first feeling the propensity to stagger and stumble, the complaint has been invariably greater in the evening than in the fore part of the day."

Examination of the body twenty-four hours after death. Externally the body was found to be somewhat emaciated, the left leg sphacelated to the knee, the abdomen lank and dark colored, the thorax resounding naturally in every part, the scalp nearly denuded of hair. On dividing and turning back the scalp, which was very thin and delicate, not a single drop of blood flowed. Although the utmost care was taken in sawing the cranium, as soon as the saw penetrated the inner table, a transparent fluid began to flow, and, on removing the calvarium, it was found that the dura mater was adherent to the bone nearly throughout its whole extent, an alteration which did not seem to depend on disease, the distinction between the two tables of the cranium entirely obliterated, and the texture of the bone more dense than common. The tunica arachnoidea was very firm and opaque; the veins beneath it were very small, containing but little blood. The brain was very firm and dense, and the convolutions very strongly marked; the sulci were wide and deep. The color was somewhat darker than common, and the whole feeling and appearance of the brain were as if it had been subjected to the action of alcohol. A small quantity of serous fluid was found beneath the tunica arachnoidea. The cortical portion of the brain was extremely thin, being less than an eighth of an inch in thickness. In the ventricles nothing unusual was discovered. The pineal gland was extremely small, and contained no particle of gritty matter. The cerebellum was thought to be disproportionately small.

On removing the sternum, the lungs collapsed throughout, and exhibited the cavity of the thorax of unusual capaciousness. The cartilages were ossified, but were easily divided by a strong knife. The pleuræ appeared perfectly free from every mark of disease, except in both sides of the thorax there was adhesion at the apex of the lung for a small extent;

at this part a very superficial portion of both lungs was hepatized, but without any mark of recent disease. Spots of black pulmonary matter were very abundant on the surface of the lungs. The substance of the lungs was free from disease, with the exception above stated.

The heart was of small size and without fat. The pericardium was adherent to a small part of its anterior surface at the base. The cavities were examined in the course of the blood from the right auricle to the aorta, and no alteration of structure from the most perfectly healthy state could be discovered in the walls of the cavities, the fossa ovalis, the tricuspid valves, the semilunar of the pulmonary artery, the mitral valves, and the semilunar or sigmoid of the aorta, except, perhaps, that these latter discovered a slight degree of rigidity at their attached margin, but by no means such as to interfere with their flexibility and free motion. The arch of the aorta, and several inches of its descending portion, were found to be in perfectly healthy condition, except two or three needle like spiculæ of bone.

On opening the abdomen, the stomach appeared smaller than common, and contracted about its middle, as if a band were tied round it, and at this part its coats felt solid and much thickened. On opening the stomach, it was found that its middle portion, including about a third of its extent, and making a complete circumference of the viscus, presented the appearance of scirrhus, and was contracted so as hardly to admit the passage of a finger. This contraction divided the stomach into two portions, of which the superior or cardiac portion was the most diseased. The mucous coat was corrugated, and dark colored, with ecchymosed spots and points. About the middle of the great curvature was a superficial ulcer of an inch in diameter. The pylorus, the cardiac orifice, and the œsophagus, were in a healthy condition.

The liver was natural—the gall bladder enlarged to twice its natural size, filled with thin chocolate colored bile, and a calculus of the size and shape of a small nutmeg. The gall ducts pervious and natural. The spleen was adherent to the diaphragm and omentum, was externally firm, white, and of a cartilaginous appearance, and its internal substance dark colored and semifluid. Small intestines contracted, dark colored, and resembling in color the sphacelated limb. On the mucous coat, which was chocolate colored, the blood vessels were very turgid, the valvulæ conniventes slightly thickened. The large intestines were more free from disease, the valve of the cœcum perfectly natural in structure. Both kidneys contained on their surface and in their substance several small

hydatids. The ureters were pervious and natural. The bladder was filled with urine, and presented a perfectly natural structure, except the interlacement of the fibres of the muscular coat was more distinct and prominent than common. The prostate gland was not enlarged, and presented nothing unnatural to the feeling.

It is, perhaps, a fact worth noticing, that there should have been so little derangement of structure in the parts last described, which are so commonly diseased, in advanced life. On the evening before his death, his motions indicating uneasiness about the bladder, his urine was evacuated with a catheter. Not the least difficulty was experienced in passing the instrument.

The descending aorta and the iliac arteries were flexible and free from ossification.

ART. VIII. *Some Observations on the Remittent Fever of Marshy Grounds, as observed at Forts Jackson and St. Philippe, during the Summer and Fall of* 1827. In a Letter from G. ANDERBACH, M. D., of New Orleans, to Captain RICHARD DELAFIELD, of the U. S. Engineers.

BEING aware, sir, of the zeal with which you prosecute the study of the topography of this country, and having myself witnessed the attention you bestow upon every object conducive to the health and comforts of the inhabitants of the forts under your direction, I could not be astonished at the request you made me, some time since, respecting the fevers that prevail among them with such frequency, as almost to entitle them to the appellation of endemic. You desire, above all, some information upon the remittent fever, with which you were yourself attacked, after an exposure of several hours to the influence of the effluviæ emanating from the excavation, under a burning sun. You had scarcely escaped the fury of the yellow fever, when you exposed yourself to the devouring grasp of a disease which, though not possessed of so terrific a name, is no less serious and singular.

But, considering my limited experience and my inability to write, how can I presume to give you a report worthy of your attention? I will, therefore, confine myself to a few remarks which have no other merit than that of being the conclusions deduced from the facts I have observed, and from events that have occurred under your own eyes.

The forts Jackson and St. Philippe are situated on the banks of the Mississippi, opposite one another, and surrounded by a semicircular range of marshes, lagunes, and other masses of stagnant water. The soil is everywhere covered with alluviæ, containing enormous trunks of trees half rotten, and some remnants of shells and other animal and vegetable substances. This soil abounding in so many substances that are constantly exposed to chemical decompositions and recompositions, from the influence of dampness and heat, often reflects an odor of vegeto-animal fermentation, so strong as to produce a sort of giddiness, especially after lying for some time on the ground. The presence of a large quantity of hydrogen and carbonic acid is not surprizing, but azote is also contained in a certain proportion. Having repeated, at Fort Jackson, the experiments made by the celebrated anatomist, Mascagni, on the presence of azote in the condensed vapors emanating from the marshes of Tuscany, *(le maremme,)* I have obtained nearly the same results. Here, as in that country, the vapors contain much of a matter which is greasy, oily, and disagreable to the taste, and acting like an acid on the paper of tournesol, after leaving it exposed to the contact of the air. This matter often floats on the water in the form of distinct drops.

The geographical latitude, the nature of the soil, the frequency of southern and easterly winds, which obstruct the course of the Mississippi, and propel its redundant water over the marshy grounds, the periodical inundations, the constant humidity, the thick fogs, the vast quantity of wood in decomposition—all these circumstances are sufficient to explain the insalubrity of the country. But there exists another which possesses considerable influence over the health of the inhabitants of the forts; it is that, for several years past, excavations have constantly been made for the purpose of erecting new fortifications, or preserving the old ones. The ground thus laid bare, perhaps for the first time since its formation, exhales a great proportion of humidity and obnoxious gases, while it abundantly absorbs the oxygen of the surrounding air. But let us lay aside these physico-chemical reflections, more or less theoretical, and enter into medical facts.

From the month of July to the commencement of December, 1827, a particular fever prevailed among the inhabitants of the forts. Fortunately for them, the garrison of Fort St. Philippe had already retired to Bay St. Lewis, leaving behind only one sergeant, and a few soldiers with their

families, and half a dozen workmen with their wives and children. At Fort Jackson nearly all the white portion of the workmen had been sent off early; there remained but some negroes and other people of color, with a few whites, officers, and journeymen, all acclimated. Without this precaution on the part of the commanding officers, a most dreadful epidemic would, no doubt, have prevailed.

I will now give you a description of the epidemic *remittent fever of marshy grounds*, to which I have alluded. The following were the principal symptoms:

Pain in the head, as if the brain were compressed in all its extent; eyes very red and irritable; the face of a bluish red, and indicating great suffering; very strong pulsation of the temporal arteries, dischronical with that of the heart; palpitation of the heart so strong that it could be heard at five paces from the patient; pulsation at the epigastrium; impossibility of lying on the left side; very evident pulsation of all the small arteries of the extremities, of which the patient complained as of a painful and disheartening sensation; sometimes the veins themselves appeared also to participate in this general pulsation of all the vascular system. The pulse at the wrist was frequently intermittent, and rather tense than hard.

The thoracic viscera seemed also to suffer, but not primitively. The voice was trembling, very quick, interrupted, as if for want of strength in the pronunciation; frequent sighing; short and dry cough; sensation of strangulation at the larynx; inexpressible anxiety; faintings; dumb pain about the præcordia; vague pain in the left arm; the extremities of the fingers as if numb; hands frequently cold and bluish.

The tongue was invariably natural; or, at the utmost, somewhat more red than usual, in the first five days of the disease. It was not until this period, and particularly after the use of evacuants, that it became loaded. The abdomen was supple; the alvine discharges very rare and blackish; urine scanty; skin dry, frequently changing its temperature; sometimes it became cold, and perfectly blue; but the patient did not, nevertheless, cease to complain of great heat; at other times he would experience shiverings when his skin was burning.

The prostration of muscular strength was extreme; sleep almost none during the first four or five days. The patients were constantly harassed by frightful dreams; sometimes they jumped out of bed, under the fear of being choaked or prosecuted. One of them jumped into water, and came out

of it more delirious than before. But they generally knew well those who addressed them.

About the sixth or seventh day, the symptoms became more and more gastric; the tongue loaded; the mouth bitter; breath fetid; urine and fæces darker, more copious, and offensive to the smell; the skin less burning; the pains about the head and extremities diminished, and others manifested themselves at the epigastrium, and continued until the thirteenth or fourteenth day.

The remissions became more regular, and gradually changed into intermissions. The extraordinary pulsations ceased, except the palpitations of the heart, attendant on the fever from the beginning to the end, which continued to annoy even the convalescents for several weeks after the cure. Sometimes a painful sensation at the heart, and a short cough, accompanied this disorder of the heart, which had become chronic.

The disease proved fatal only in three cases. One of them was that of a soldier who, in a fit of violent delirium, threw himself into the water, and died eighteen hours after, with the symptoms of an *apoplexy of the heart*, (if I may use this expression of Bichat.) Another was that of a serjeant laboring, for some time previous, under a pulmonary phthisis, who, from the complication of two diseases affecting, the one primitively, the other secondarily, the respiratory organs, sunk under a fit of asthma. The third was that of a carpenter, who poisoned himself with enormous doses of calomel. When he died, he had all his mouth and throat corroded by mercurial ulcers.

General bleeding, which seemed indicated as much by the violence of the fever, as by the symptoms of congestion of blood in the brain and in the heart, never failed, however, to exasperate the evil. Topical bloodletting, especially leeches at the temples and anus, sometimes relieved the headache, but only for a little time, as it returned again at every new exacerbation of the fever.

Emetics, during the periods of exacerbation, increased the congestion and pain; they were more beneficial during the remissions, but never brought on very copious evacuations of bile. Drastics exhibited before the tongue became loaded, increased the orthopnœa and anxiety. Opium then procured no sleep, but renewed the dreams. The treatment which I found the most appropriate was the following:

The first and second days of the disease, I gave, during the remission, an emetic of ipecac. and tart. ant. The latter was continued largely diluted during the three first days;

drastic enemata, four to six times a day; acidulated, sudorific drinks towards evening; semi-balnea and pediluvia with mustard; general lotions with warm water, lemon juice, sometimes camphorated spirit.

From the third, to the fifth and sixth days, I applied blisters to the calves of the legs and back of the head; Dover's powder; sometimes purgative ptisans with nitre, or emulsions with camphor, nitre, and syrup of poppies. But the most efficacious remedy I employed then, was the tincture of digitalis, given until the pulse was much diminished in frequency, and until repeated vomitings proved its narcotic effect.

At this time, which was generally the seventh day, besides continuing the use of the revulsives and derivatives at the skin, and especially the extremities, I gave tonic purgatives, and, as soon as an intermission of the fever had occurred, the sulphate of quinine, combined in the evening with the syrup of morphia.

On the eleventh or fourteenth day, I gave calomel and rhubarb in large doses; for, as the fever and symptoms of congestion in the heart diminished, the disease appeared to assume the character of a bilious fever.

I closed the treatment by large doses of quinine with the infusion of calamus aromaticus; but, in most cases, I was compelled to continue the digitalis in small doses, in order to relieve the convalescents from the palpitations of the heart, which sometimes annoyed them to despair.

Queries. Why was not bleeding of any use against so decided a congestion of blood in the brain and heart?

Can a congestion of blood be continued for so long a time in organs so important, without exciting in them real inflammation?

ART. IX. *Remarks on Burns.* By RICHARD K. HOFFMAN, Surgeon U. S. Navy. Being his Inaugural Thesis for the degree of M. D., submitted to the College of Physicians and Surgeons of New York, in 1820.

WE shall employ the term burns, to express all injuries produced by the application of a pernicious quantity of uncombined caloric, whether it be applied by the medium of a solid, liquid, or gas; it will, of course, include scalds and scorches.

To present a more clear and comprehensive view of the

subject, we shall, first, enquire into the opinions and practice of some of the older writers, from which the practice we recommend will derive some support; secondly, we shall proceed to exhibit the diversified and very opposite modes of authors on the subject of burns, with the theories which treatment recommended by the modern and most recent they entertained—to show that these theories are unsatisfactory, and lead to an improper practice; and thirdly, by adducing facts to prove that a stimulant plan of local treatment is the best—that it has principle for its foundation; and to reduce these facts, and this practice, to an approved theory, new in its application to burns.

We shall carry our retrospective view only to the end of the sixteenth century. Fernelius, who wrote about this period, and his successor, Fabricius Hildanus, thought that in order to cure burns, it was only necessary to extract the empyreuma, or the fixed fire, from the burnt part. With these intentions, Fernelius recommends, as possessing refrigerating qualities, water, vinegar, oxycrate, the juice of the houseleek, (sempervivum,) lettuce, (lactuca,) &c., bolus armena, mixed with distilled water or oxycrate, the solution of alum in water with the addition of the white of eggs, common writing ink (the gallate of iron) diluted with water; and these he directs to be procured without delay, and to be applied *warm*. He also advises that the burnt parts *should be held near the fire, which he regards as the true remedy* (alexiterium) for the evil it produces; which operates by extracting the empyreuma, and thus allaying pain. Arum and leeks are lauded as efficacious remedies, and he ascribes miraculously curative powers to a mixture of onions and salt, or oil and salt, applied locally.* He gives a long catalogue of topical remedies, on the utility of which he bestows his sanction. What we would remark is, that he advises them to be applied warm; and that his conviction of the efficacy of topical remedies alone, is implied by his silence on the subject of general or constitutional treatment, on which he says not a word.

Hildanus says, that the various remedies in use among practitioners and plebeians, whether they be plasters, ointments, juices, or distilled waters, "ad hunc finem tendunt, nimirum, ut empyreuma, sive calorem ab igne in parte affecta relictum, aut suffocent, aut resolvent et dissipent." Again, p. 921, "Quam primus quis igne, aqua, aut oleo fervido, aut

* Cepæ eumsale contusæ, ambustæ perti impositæ miraculo persauant; oleum quoque sale addito idem efficit.—*Therapeutice Universalis*, p. 321.

simili quapiam re combustus, ac combustio levis fuerit, illico locus ambustus aqua, aut proprio spuo madefiat, et ad ignem admoveatur, ut incalescat, quantum ferre poterit; vel in *aquam calidam* iminergat locum ambustum, aut si id fieri nequit, intuigatur spongia, aut luiteum reduplicatum, in aqua calida et applicetur loco ambusto." The curative operation of external heat he explains as follows: "Calor enim ille externus, empyreuma hoc est calorem, ab igne, in parte combusta, relictum, ad se attrahit, ul Aristoteles et experiencia testantur. Quemadmodum enim contusus scorpio, ictui suo impositus, venenum proprium ad se attrahit, sic calor calorem, huic *cepæ in mortario cum sale contusæ*, et illico loco combusto applicatæ empyreuma extrahunt nec sinunt ut pustulæ elevantur."

Basilicon ointment is a predominant ingredient in the various compositions recommended by Hildanus, as local applications, which possess stimulating qualiites. There are few exceptions, in which he thought the treatment should be modified, as in burns of the eyes and face. These topical remedies act as repellants, and he advises bleeding, purging, and cupping to effect a revulsion of the blood and humors from the part affected.

Serjeant Chirurgeon Richard Wiseman, whose book is dedicated to Charles II., observes in the appendix, "that if the burn be superficial it raiseth the cuticula up in blisters; if it go deeper into the skin it causes an eschar; if it burn deeper into the flesh, the force of the fire makes a hard crust, with a contraction. In all these the pain is excessive."

The indications of cure are of two kinds, viz. either by refrigerants to bathe and anoint the parts, until the heat be off and the eschar separated, and then to digest and cicatrize; or, by *calefactive medicaments*, to relax the skin, and resolve and dissipate it, which will *assuage* the heat and burning. The refrigerants are aqua solani, plantaquis, hyoscyami, lac ebutyratum; and all the cooling juices and unguents, as unguentum album, nutritum, &c.; these must be used *warm* until the heat and pain cease, or the fire be taken out, as the common expression is. *Hot medicaments assuage* the fiery heat and pain by rarefaction, which, in the first place, may be done by holding a burning hot iron, or fire, to the part; so while the *fire calls forth that fire it made*, it becomes its alexiterium; but the common remedy, he observes, is to *apply salt and an onion beaten together.*"

Where the parts are burnt to an eschar, we are to hasten its fall with emollients, then digest, incarn, and cicatrize. He recommends bleeding, purging, and a spare diet, to check

the tension to the part; and in one of the interesting cases of burns from gunpowder which he has recorded, says the *patient should have been let blood, but would not;* that the fever *was great by reason of the pain*, and adds, it happily cicatrized this young gentleman's ulcers even and smooth, without the least inequality, nothing remaining but the red color to make it discernible.

The authors, whose opinions and practice in burns we have thus briefly explained, were conspicuous at the end of the sixteenth and middle of the seventeenth centuries. They ascribed phlegmon or inflammation (see Wiseman, p. 14) to constitutional causes; to a plethora, with an acrimonious mixture of serum in the blood. The cause of burns being so entirely different, the identity of inflammation and burns, which has since been so generally admitted, seems not to have occurred to them; but in the intentions of cure, according to Hildanus and Wiseman, depletion by bleeding and purging was common to both.

Professor Heister, the systematic writer of the beginning of the last century, particularly directs the attention to the analogy between inflammation and burns. He observes, "I believe no one will be offended at our treating of burns as *a species of inflammation*, since the appearance as well as consequence of both are exactly the same." He divides burns or scalds into four degrees: the first and slightest is that which occasions heat, pain, and a small vesication on the injured part in a short time; the second degree is when the part is instantly affected with great pain and vesication; the third is when the common integuments and subjacent flesh are so burnt that they form a crust; the fourth and last is where every thing is destroyed quite down to the bone. The third species is nearly allied to gangrene; the fourth to a sphacelus; this illustrates the near relation between burns and inflammation. In the first degree of burns, he recommends *spirits of wine, vel vulgaris, vel rectificatus, vel et camphoratus*, to disperse them, (or cure by what we may call the first intention,) and with the same view advises the *brine of pickled cabbage*,* or oxycrate boiled with salt, and applied warm. Oleum teribinthinæ, he says, has very good effects. We would ask, in this place, if these applications could be beneficial in *an increased action* of the part? and if the following advice is not in contradiction to that theory? To hold the burnt part as long as can be borne near the fire, or if the finger be burnt, over a candle, is the vulgar method, he

* Muria brassicæ conditæ.

observes, but which is often done with success. We would remark, that this is still a common practice among our blacksmiths, and as it is founded on the experience of its good effects, may be adduced as an argument against the theory of an increased action of the vessels of the part affected. "For the *stagnating fluids* are, (says professor Heister,) by the force of the fire, drawn back into their proper channels, and by this means the vesications, and other troublesome symptoms which usually succeed, are happily prevented."

There is another method of cure which is equally efficacious, though founded on a contrary intention. This is by emollient remedies, which remove the tension of the fibres and vessels, and restore the blood to its natural course before any bad symptoms come on. The injured part may be fomented with water *as hot as the patient can bear it*, till the pain and heat entirely disappear. Sydenham highly recommends this practice, continues professor Heister, with great justice. The fomentations will be improved if you boil some emollient ingredients in the water, as althea, semen lini, mali cydonii semina, &c. But emollient cataplasms are of the highest service in this case, if frequently laid on the parts affected, *as warm as they can be endured.* Emollient oils have their use in forwarding this intention, as oleum lini, amygdalarum dulcium, olivarium, liliorum alborum, hyoscyami, and the like. These oils are to be used by dipping rags into them, and applying them to the burnt parts. We must not omit to mention, says Heister, a famous liniment of Mynwettus, which he calls his linimentum ad ambustiones. This is composed ex oleo lini, vel olivarum cum albumine ovi mixto, and applied as the oils above. Mucilage of quince seed is properly enough prescribed in this case. *The remedies we have here recommended never give effectual relief unless frequently repeated.*

In the second degree of burns, atended with vesication and great pain, he advises the frequently renewed application of one of the remedies prescribed above, as warm water, spirits of wine, burnt wine, which will quickly remove the heat and pain, and detach the cuticle from the true skin, without leaving any deformity. But if the pain still continue, emollients, as linseed oil, or the ointment of Mynwettus, are to be used, and the parts afterwards to be dressed with emplastrum de minio.

What follows we think (as will afterwards appear) to be a reprehensible practice, and inconsistent with the astringent and stimulating applications which Prof. Heister approves of. "If the injury," says he, "be very considerable as to its

extent, and a great part of the body is scalded or burnt, it will be necessary *to open a vein, and bleed even ad animi deliquium*, and afterwards prescribe a brisk purge, abstemious diet," &c.

In the third degree of burns, where the part is covered with a crust or eschar, warm emollient applications are recommended to promote suppuration.

On the supposition that a practitioner had no other authority to direct his proceeding in the treatment of burns, than that of Fernelius, Hildanus, Wiseman, and Heister, he *would be justified in giving a preference to topical applications of a stimulating kind;* the composition of salt and onions was in high repute with Fernelius and Hildanus, and is sanctioned by Wiseman. This preference to stimulant local treatment would be given notwithstanding "the variety and opposite nature of the remedies recommended by Heister;" for even his evidence inclines to its support. Should we hesitate, however, in making a choice of local remedies, where so many are approved of, we would be freed from this perplexity in deciding on the general treatment; bleeding, purging, and a low diet being approved of by a too common consent.

Among the aphorisms of the learned Boerhaave, are the following:*

"If actual fire, or any thing which conceals fire, is applied to our bodies, there follows a *destruction* of the small vessels, and an extravasation of their humors, varying according to the difference and duration, of the cause and of the nature of the part affected.

"The different degrees of these several effects from burning resemble those observed from the first and slightest degree of an inflammation, till it degenerates into the worst and most severe sphacelus. Hence the phenomena or symptoms, the diagnosis and prognosis, are the same in both."

In these deductions of the celebrated Boerhaave, the consideration of the cause of disease, which is important to the establishment of judicious practice, is too little regarded. Diseases produced by internal and constitutional causes, and by causes acting locally and from without, are confounded in one general view, and reduced to common principles of practice. It is the general belief in the similarity of burns and inflammation, and the associated idea of an increased action of the parts, which, we think, have led to a pernicious antiphlogistic plan of treatment.

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* See Van Swieten's Commentaries, vol. 4, p. 180, et sequent.

"In the cure, also," says the same distinguished author, "there is no difference, and more especially the antiphlogistic drinks proper for inflammation are always necessary in burns.

"Burning or scalding within the limits of a resolvable inflammation, is to be treated with such *remedies as preserve, or, as it were, pickle the juices*, and put them into motion; (the muria brassicæ conditæ, recommended by Dr. Heister, would be an admirable application for this purpose;) and by such things as open and preserve the vessels; and this is performed by a moderate *degree of fire*, by fomentation and cataplasm, by washed butter, or, lastly, *with spirits of wine* and a little vitriol.

"A burn which tends to gangrene, which may be known from the skin being already turned into a crust, or else corroded and elevated into blisters, is to be treated as an inflammation of the same nature, namely, by fomentations, and cataplasms of emollient and digestive remedies."

The commentaries on these aphorisms, by his industrious successor the baron Van Sweiten, would extend this thesis beyond its proper limits; like the text itself, they cannot be read without leaving on the mind an impression unfavorable to the author, as it is unsatisfactory to the reader. Although burns are identified in their several degrees with the different stages of inflammation, our judgment is confused from the manifest want of a rational principle to direct us in the treatment of them.

The profession has long been teazed with empirical practice in burns. "The vague state of medical science and practice in these cases," has been often exposed, and we think it still holds good, the zealous attempt of a very recent author* to disprove it, to the contrary notwithstanding.

Baron Van Swieten has expressed this opinion as follows: "But what seems a little surprizing is, that even the best surgeons should recommend medicines of opposite virtues in these accidents, namely, emollients and astringents, attractives and repellants."

This able commentator, we would remark, enforces the propriety of applying the remedies warm, with the observation, "that things actually cold are observed to be mischievous in burns." P. 190.

This contradictory practice, which it will be our object to prevent, will be seen in a more conspicuous light as we concentrate it from some of the subsequent writers on the sub-

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* Mr. Nodes Dickinson.

ject, and in none more than from the systematic work of Mr. Benjamin Bell.*

"In the treatment of every variety of burns," says Mr. Bell, "our first object is to procure ease as quickly as possible. Where the skin is not destroyed, but seems to suffer merely *from irritation*, an abatement of pain may be procured by the application of remedies of very *different*, and even very *opposite*, natures. By dipping the part affected in *very cold water*, and keeping it for some time immersed in it, the pain will often be rendered very supportable. While, on the other hand, a considerable degree of ease may be procured by plunging the injured part suddenly *into boiling water*, or *any other fluid of nearly an equal degree of heat.* Emollients are often employed, and in some cases they procure immediate relief, *but, in general, astringent applications prove much more successful;* one of the best to every burn of this kind is brandy, or any other ardent spirits; it seems to induce a momentary additional pain, but this soon subsides, and is succeeded by an agreeable soothing sensation. *It proves most successful when the parts can be immersed in it;* but when this cannot be done, they should be kept constantly moist with pieces of old linen soaked in spirits. The acetum lytharg., a strong solution of sacch. saturni, or Goulard's saturnine water, make useful applications for the same purpose; and as a proof that it is the astringency of the remedy, from which the effects result, the same benefit is derived from a strong solution of alum, or even from common ink."

"When, again, burns are, from the first, attended with loss of substance, as usually happens when they are produced by the application of hot metallic bodies, cooling emollient applications prove most effectual, and the parts being constantly kept moist with a liniment composed of equal parts of lime water and linseed oil, often gives immediate ease, and the easiest way of applying it, is to daub the part frequently over with a soft pencil well soaked in it. The application and removal of even the softest coverings is often productive of much pain, and I have always found in burns of this kind, that their being exposed to the air does not, for the first two or three days, do any harm; on the contrary, it often gives relief, when no advantage is derived from any application. But as soon as the *pain and irritation* produced by the burn are removed, the parts should be covered, and treated in the same manner as ulcers proceeding from any other cause. The liniment, (Mr. Bell continues,) which I

* Vol. 5, p. 357.

have mentioned, of lime water and linseed oil, is, perhaps, the best application that has yet been employed in burns of this kind. In some cases, however, I have found that more immediate ease has been procured from the application of Goulard's cerate,* or the unguentum nutritum, and a weak solution of sacch. saturni has sometimes proved successful."

From the above extracts it is too apparent, that Mr. Bell, whose work we may suppose to contain a summary of the opinions and practice of his contemporaries, has made no advancement towards the establishment of rational principles to direct our practice in burns; and we may remark with Dr. Kentish, "that we might as well write the different applications on slips of paper, roll them up, shake them in a bag, and dip for our chance, as to expect to be guided by a well formed judgment" from Mr. Bell's chapter.

His approbation of the use of cold water, is an addition to "the variety and opposite nature of the remedies recommended by Heister," and could only increase the embarrassment which a person, ignorant of the treatment of burns, would experience, were he to consult Mr. Bell's work for his guide.

As to the medical treatment, Mr. Bell followed the fashionable practice of bleeding, and other "remedies adapted to the particular symptoms." In this indefinite expression, we presume, he meant to imply the whole of the antiphlogistic regimen.

But if the vague state of the practice in burns were disputed, a strong presumptive proof of it is furnished by the different plans of treatment that are described, and which we find condensed in Mr. Samuel Cooper's excellent work of reference, the Dictionary of Practical Surgery—such as sir James Earle's plan, Mr. Cleghorn's plan, and Dr. Kentish's plan. We will now proceed to a consideration of these, and more particularly of the theories and practice of Dr. Kentish.

Mr. Cleghorn was a brewer in Ebinburgh. He communicated his observations and practice in burns to the celebrated Mr. Hunter, who has recorded them in the second volume of Medical Facts and Observations. He advises the immediate application of vinegar, which is to be continued for some hours until the pain abates, when the burn is so severe as to have destroyed any part; when the pain shall have ceased, it is to be covered with a poultice, which must remain six or eight hours. When that is removed, the part is to be entirely covered with very finely powdered chalk, so

* Compound cerate of acetated lithrage.

as to remove every appearance of moisture on the surface of the sore, when it is again to be covered with a poultice. These applications are to be removed every night and morning until the cure is complete. If the use of the poultice appears to relax the wounds too much, they are to be covered with a plaster, or ointment, containing *white lead*, but the chalk is still to be used next the sore. "In respect to general remedies, (says Mr. Cleghorn,) I allow my patients to eat boiled or roasted fowl, or, in short, any plain dressed meat they like, and I do not object to their taking, with moderation, however, wine, water, and spirits, ale, porter, &c.; my applications, as hath been already observed, allay pain and inflammation, and, also, *always either prevent or remove feverishness*, and, at the same time, (if one may judge from their effects,) they have powerful antiseptic virtues. *I have never had occasion to order bark or any internal medicines* whatever, and I have only once thought it necessary to let blood. When the patient was costive, Mr. Cleghorn endeavored to obviate it by suitable diet, sometimes by injection, but never used purgatives, which he thought more frequently carried off useful than hurtful humors.

In cold weather in particular, Mr. Cleghorn's practice was to apply the vinegar a little warmed, and place his patients near the fire, giving them something warm internally, and keeping them, in every respect, as comfortable as possible; his object was to prevent the occurrence of tremblings and chilliness, (and these, I may remark, will almost invariably attend very extensive burns,) and which in two cases alarmed him a good deal after applying vinegar too cold. He recommends in all severe cases to apply the vinegar warm.

It is a little remarkable that an unprofessional man should have first observed the inutility of the then prevailing antiphlogistic plan of treatment. He had no favorite hypothesis to support, and was an unprejudiced observer; the facts noted in his experience, are original and important; they accord with the principles, and can be explained by the theory, which we shall inculcate and adopt.

We will now turn our attention from the soothing practice which the humble Mr. Cleghorn pursued, and, with a feeling of dissatisfaction which we cannot suppress, make some observations on the refrigerating practice inculcated by sir James Earle. Mr. Thomson observes that cold is a remedy which has *long* been employed to diminish the inflammation of superficial burns. Rhazes directs that, in recent burns, cloths dipped in cold water, or in rose water cooled with snow, be applied as soon as possible to the parts

which have been injured, and that these cloths be renewed from time to time; and Avicenna says, that this practice often prevents the formation of blisters. The practice, however, as we have shown, had long fallen into disrepute.

The great object of sir James Earle's essay appears to have been to advocate the practice of sir Walter Farquhar, of applying ice in the treatment of burns. Like Fernelius, Hildanus, and Wiseman, sir James founded his curative intentions on the supposition that the fire or caloric remained united to the part. For a time such appeared to sir James to be the fact; but whether modern philosophers would allow it, he thought very questionable. It follows, then, that the sooner the ice is applied after the accident has happened, the better, as the fire will have less time to do mischief. The older writers whom we have mentioned employed warm applications, and fire itself, for this purpose, which they regarded as the remedy for the evils it produces; and Wiseman, speaking of *refrigerants*, says, these must be used *warm* until the heat and pain cease, or the fire be taken out, as the common expression is, else they will rather cause pain. But sir James proceeds to extract the fire, as we would cool a red hot bar of iron; and, indeed, he adopted a most effectual way of doing it; but, unfortunately, in this limited view, he seems to have lost sight of the body as an animated machine. If the fire or caloric do remain in the part, it must be either free, or in a state of chemical union; if in the former state, in the ordinary temperature of the air, unless the laws of its distribution be peculiar in this instance, it would soon pass off, and the skin would preserve such a degree of temperature, as might be derived from the heat generating process of the system itself. If the caloric be chemically combined, the peculiar condition of the part must be changed, before the heat could be disengaged. But without discussing the opinion whether heat remains in the part or not, experience shows, or rather reason dictates, that if an attempt were made to abstract this supposed heat, by applying ice to a large extent of burnt surface, not only the morbid heat, but the natural salutary heat of the body, would be carried off; and that rigors and shivering would result, which, should they not destroy life itself, would excite a struggle between its preservative powers, and the injuring cause, which would powerfully tend to exhaust their energy. An infant or an adult might possibly endure an application of ice to a hand or an arm for a few hours; but what would be the probable consequence? Its vital powers would be so far reduced, or its excitability so much accumulated, that

when the application of ice should be desisted from, the stimulus of heat imparted to it from the system, by the small remains of circulating blood, would perhaps excite inflammation, and terminate in the death of the part. The temporary application of ice to the scrotum, followed by the moderately stimulating application of a warm poultice, professor Mott tells us, has induced sphacelus of the part; but if some two thirds of the surface of the body (and burns often occupy a larger extent of it than this) were to be covered with ice, what animated being could tolerate it, without the loss of life. Without any acquaintance with the particulars of the the cases in which sir James Earle, with the approbation of sir Walter Farquhar, pursued this practice, we should, from the nature of the application, infer that his experience of its effects must have been very limited, and the burns that he treated, still more limited in extent; or his practice would have extinguished not only the fire, which was supposed to "lie rankling" in the part, but the vital heat itself, the vis medicatrix, vel conservatrix naturæ to the contrary notwithstanding. The cases which sir James Earle has recorded, would, with a few exceptions, have been cured by Perkins's metallic tractors, or what perhaps is the same thing, by the unassisted power alluded to above. "I know," says Dr. Kentish, "that nature possesses a power of curing burns to a certain extent, unaided; nay, farther, that she can cure burns in spite of all the malpractices of officious ignorance."

In the case of the poor woman who, in a fit, fell into the fire, and burnt her neck, back, and breasts, where this refrigerating and antiphlogistic practice was pursued, a fatal termination occurred at the end of three weeks.

Mr. Gibbon has said, that the inhabitants of Naples seem to dwell on the confines of paradise and hell fire. The object of sir James Earle seems to have been to rescue his patients from the one, and transport them to the other. With what success, or gratification to the patients, we will leave the reader to judge.

It appears from sir James Earle's essay, which was published in 1799, that the essay of Dr. Kentish, on the same subject, had not fallen under his observation, although it had been published nearly three years prior to his own. The principles inculcated by Dr. Kentish, which are in direct opposition to those of his immediate predecessors, and the important innovation in practice that he has endeavored to establish, claim a more particular consideration.

From experiments to which Dr. Kentish subjected himself

in a bath heated to a temperature of from 100° to 116° Farenheit, he concludes "there is no doubt but the most common and most decided effects of heat upon the system, are to quicken the circulation of the blood, and increase the sensibility of the whole system. If caloric be gradually applied, the increased action is propagated from the point of contact to the rest of the system; but if the heat be suddenly and violently applied, the parts of the vessels with which it comes in contact lose their organization, and cease to be conductors. Thus, parts of vessels which, a moment before the application of caloric to them, were circulating fluids, and propagating nervous feeling, on a sudden cease to act, and become inert and dead matter, attached to the living parts of the same vessels. To disengage the dead parts from the living, requires a peculiar process of the system. But there are various degrees between a high increased action and the total disorganization of the part. It seldom or never happens that a part can be so totally and suddenly destroyed, but that some of the adjoining parts will have a sufficient quantity of caloric applied to them, as to come within the limits of mere *increased action.*

As the injured parts in burns present a state of increased action, according to the views of Dr. Kentish, (as well as of other writers on the subject,) he assumes that a disparity subsists between the general action of the system, and that of the injured part; and that as the action of the part is *morbidly increased*, it must continue to be excited—it must not be rapidly, but, on the contrary, very gradually, lowered; while the natural healthy actions of the general system must be excited in such a degree, as will overcome the disparity, by raising the general action of the system to the morbid excess of action in the injured part.

The inefficiency, indeed the injurious effect, of the depleting antiphlogistic treatment, especially in extensive burns, determined Dr. Kentish to abandon the then prevailing doctrines on the subject, and to adopt the general principles as above stated. To explain these more fully, together with the practice pursued by Dr. Kentish, we shall give his own words.

"Injuries caused by a pernicious quantity of caloric suddenly applied to any part of the body, if the foregoing premises are just, ought to be called *local injuries from increased action*; most scalds are of this nature. The mode of relief in these dreadful accidents, therefore, will be *to restore the unity of action between the morbidly increased action of the part, and the rest of the system;* 1st, by gradually diminish-

ing the increased action of the part; and 2d, by increasing the general action of the system. Thus," continues Dr. K., "the disparity of action between the injured part and the rest would be less; consequently it would lead to a more speedy cure.

"With this intention, holding the part to the fire is a very rational mode of relief: but as parts of the body may be injured where a cure by such means could not be carried into effect, it will be necessary to have recourse to other means. The strongest essential oils, the highest rectified spirit with essential oil, to which caloric may be added, also, are the species of applications calculated to do good, and to give the speediest and most effectual relief. *These remedies* are generally regarded, and used, as the *strongest stimulants.*" The writer, as will appear, regards them as such; but they are neither considered nor used as such by Dr. Kentish. "They are here used," Dr. K. continues, "as *sedatives*, or powders less stimulant than those which produce the injury. These means are meant only for a limited time after the accident, and are then to be succeeded by milder applications; for, if the use of these were persisted in, they would cease to be sedative, and would excite an irritation similar to that which they were at first intended to relieve."

The internal means of relief will be to administer those substances which will, in the quickest and speediest manner possible, throw the heart and arteries into the most violent action compatible with life. Thus, large doses of æther, volatile alkali, ardent spirit, opium, wine, &c., given in hot water, are what should be administered in the first instance. By these direct stimulants internally, the circulation will be carried to the greatest possible degree of quickness, by which means there will be infinitely less disparity of action between the part excited by the burn, and the general system, than by any other manner of treatment. By thus restoring a unity of action between the excited part and the rest, the cure is to be performed. "Should these premises be granted," says Dr. Kentish, "the following will be the law upon which injuries, arising from too great a quantity of caloric, should be conducted, namely:

"*That any part of the system having its action increased to a very high degree, must continue to be excited, although in a less degree, either by the stimulus which caused the increased action, or some other having the nearest similarity to it; until, by degrees, the extraordinary action subsides into the ordinary action of the part.*"

He divides burns into two varieties—

1. Injuries from caloric where the action of parts is only increased.

2. Injuries from caloric where the action of parts is increased, and the organization of some other parts destroyed.

"I never saw," says Dr. K., "an injury of this kind where some parts were totally destroyed, but it produced, upon other adjoining parts, an increased action. Now, as it is our duty to save the living parts, or those which have their action only increased, *our mode of treatment must always be the same.* To a disorganized part, or to an eschar, it is of no consequence what we apply; for the surface to which such application is made is dead, and incapable of being acted upon from without.

"There may be a difference in the degrees of injury, but there can be no difference in the kind. A small or a large surface may have its action increased; but still the injury will be one of increased action. A small or large part of the system may be disorganized; this will, therefore, class with injuries where parts are destroyed.

"As I found from experience," says Dr. Kentish, "that the antiphlogistic plan, at the commencement, was erroneous, I began to apprehend I might be equally wrong in other parts of the treatment. To ascertain this, I determined to alter the latter part of the treatment. It was not long before I had a favorable case for the experiment; accordingly, after I had urged on the system to the point of suppuration, I desisted from the use of excitants; and I had the pleasing satisfaction to observe that the secretion of pus diminished, in a degree I never could produce before, and the healing process proceeded with a rapidity I had never as yet witnessed."

Dr. Kentish thus totally inverted the antecedent methods of treatment. The soothing means which had been so generally inculcated by writers, in the beginning, both externally and internally, are totally departed from, as well as the method of exciting the system when suppuration had taken place, under the idea of supporting the patient under the discharge. In this stage Dr. Kentish kept up a counter irritation by cathartics, and sometimes even let blood.

By attention to these general principles, Dr. Kentish asserts, that he has cured many extensive burns in one, two, three, or four weeks, which, by the former method, would have required as many months; and some, also, which he can assert, (and the writer freely admits the assertion,) would have been incurable by the former method.

We will next explain, more particularly, the mode of treatment practised and recommended by Dr. Kentish.

First, of those cases where the action of a part is only increased.

Local Treatment. In this, Dr. Kentish directs us to proceed as follows:

Take a tea cup, or any convenient vessel, into which put some essence of turpentine; place it in a basin of hot water, so as to communicate such a degree of heat as you can well bear with your finger. Dr. Kentish prefers the essence of turpentine from its producing the least cold by evaporation; but if it is not at hand, alcohol may be substituted, or any substance of which alcohol forms a constituent part, as camphorated spirits of wine, lavender water, brandy, rum, or Geneva. These are to be applied by means of a rag dipped into the liquid, or a probe armed with lint, and used as a brush. When this has been plentifully done, the injured parts are to be covered with plasters formed in the following manner:

Take of yellow basilicon, according to the occasion; let it be rubbed upon a marble slab, with as much of the essence of turpentine as will bring it to the consistence of a soft ointment. Plasters are to be spread with this ointment, and applied as soon after the wash as possible, to prevent the pernicious chilling effects of evaporation. These are to be thickly spread, and are not to be removed in less than twenty-four hours after the first dressing, when the injured parts are again to be examined; it will be necessary to have fresh plasters ready spread, previously to exposing the burnt surface. Only one plaster should be taken off at a time, and that immediately replaced. In some instances, Dr. Kentish says, it may be necessary to repeat the wash with heated essence of turpentine on the second day, but, in general, a wash with some heated tincture of opium will be preferable. At the third dressing, (twenty-four hours are supposed to have intervened between each,) the appearances, Dr. K. assures us, will have much changed. Many inflamed parts will have disappeared, being cured, if I may be permitted so to express myself, by the first intention; others, which were more injured and had slight vesications produced at the first, will now have such a secretion of pus as we frequently observe on the second day after the application of a blister. In superficial burns, having about the third or fourth day produced the above effects, it will be necessary to change the mode of treatment; for, if these means were continued they would cease to be curative. Milder applications are to be substituted. Ceratum lapid, calamin, or Goulard's cerate, are good in this stage of the injury. If unpleasant irritation should

have been excited by the use of the remedies recommended, a soft bread and milk poultice will speedily remove it, or a plaster of ceratum flavum may be applied.

Constitutional Treatment. While these local remedies are employed, stimulants are to be given internally, with the view of increasing the general action and lessening the disparity of the whole. Dr. K. accordingly recommends hot spirits and water, either brandy, rum, or gin, with 60 or 100 drops of the tincture of opium, and a tea spoonful of sal volatile, or ether, to be taken. The patient to be put to bed, between warm blankets, and if the shivering be considerable, to apply bottles of hot water to the soles of the feet and pit of the stomach. By thus stimulating the general system, and gradually lowering the excessive action of the part, the restoration of the equilibrium of action in the whole, or, in other words, the cure, will be facilitated.

When the system, according to this plan, shall have been stimulated to the *greatest extent compatible with life*, during twenty-four hours, the excitement should be lessened. On the following day, negus, with an occasional opiate, should be administered, if the pain continue. As secretion frequently appears on the third day, the necessity for stimulants will cease, and it will be necessary to change the mode of treatment.

Saline purgative medicines should now be given, both with a view, says Dr. Kentish, to tranquillize the system under the *inordinate action* excited by the stimulants, and to lessen the secretion of pus.

In the second variety or division, "where some parts have only increased action, while other parts are destroyed," it is only necessary to pay attention to the living parts; and as these living parts class with the species of those parts which have increased action, the same means must be used in both cases; but Dr. Kentish advises us not to lower the action of the system so soon as where there is only increased action, as the process of detaching the dead parts from the living requires the constitution to be supported. Warm stimulating poultices may be applied, if the eschar be conveniently situated, to accelerate their sloughing.

Dr. Kentish encountered much difficulty at first in moderating the secretion of pus, (which is very abundant,) from these suppurating surfaces; but observing the effects of a spontaneous diarrhœa, which occurred in one of his patients under these circumstances, he drew an important practical inference from this effort of nature, which influenced his future practice. As usual, he had allowed his patients a gene-

rous diet in this suppurating stage, with the view of supporting their strength under the profuse discharge of pus; under this accidental diarrhœa, however, he observed the secretion of pus to be in a great degree suspended, and the skinning process to be more rapid than he had ever before witnessed. This accident, Dr. Kentish says, not only convinced him that he had before been wrong in exciting the system, but also showed him the advantage that might be derived from instituting a counter irritation. "I have benefited, (says Dr. K.) by this lesson, and have produced very marked good effects by imitating nature. Smart cathartic doses of calomel and jalap I have found to produce such counter irritation as greatly facilitated the process of healing. Much assistance, (he continues,) may be acquired by paying attention to the state of secretion on the surface of wounds, and by irritating other surfaces, a quiescent state of the sore may be produced that wonderfully favors the formation of skin." The use of chalk applied to the part, Dr. K. found to be a powerful auxiliary. Carbonate of lime, he observes, not only acts as an absorbent in a superior manner to the lint which is in general use with most surgeons, but it seems to coagulate and unite with the gluten of the secreted fluid, and thus forms the basis of the new cuticle, or shell, which nature provides for her defence.

Dr. Kentish has endeavored to strengthen his principles by arguments derived from the appropriate treatment of frost bitten parts.

"On a review of the phenomena which take place in the disease termed frost bitten, we perceive," says Dr. K., "that it depends on a cessation of action in the vessels of the part, or parts, exposed to the sudden diminution of temperature, or the deficiency of the stimulus of heat. The mode of relief in this accident is a cautious and gradual restoration of the action of the part, by small additions of temperature, until it can bear the accustomed heat, and take up the action of the vessels to which it is attached; thus restoring unity of action to the whole system."

The best practice in these cases we know to be that of rubbing the parts affected with snow at first, and then employing cold water. But the practice has been explained *in various ways*; that of restoring the unity of action, is the principle which Dr. K. has adopted, and he applies, as we have seen, the same principle to the treatment of burns. Surgeon Dickenson, whose essay on burns will next come under our consideration, denies that any disparity of action is induced in either case; that the general circulation is de-

pressed in proportion as the circulation of the part is languid, and vice versa. We are disposed to admit that a disparity of action may be induced—if not, a foot or a hand could not be frozen—or the circulation of these parts suspended by the abstraction of heat, without arresting the circulation of the whole system.

Professor Hosack remarks in his lectures that, by cold, is meant both the sensation of cold, and a real diminution of temperature. Sensation depends on the condition of the nervous system: cold is relative; it depends on our previous temperature; the same degree of temperature, in different conditions of the body, will excite the sensation of heat and of cold. These relative effects of heat and cold should be known before we treat asphyxia from cold, or *frozen limbs.* To these we first apply snow, which is comparatively warm; next cold water; and, upon the same principle, *stimulants* of spirits of wine or of turpentine, are applied to *burns*, as being next in degree of violence or action. They constitute the next grade of stimulus, &c.

Doctor Wilson Philip, in his work on febrile diseases, has made the following remarks, applicable to this subject:

"There is one case which deserves notice, as particularly illustrating a law of the animal system, by which it is rendered morbidly sensible to any of the *natural agents*, in consequence of its usual application, or its application in the usual degree, being interrupted, without becoming more sensible to the action of any other."

Again, the application of snow to frost bitten parts, and of stimulants to burns, has Brunonian principles to sanction it:

"This mutual relation obtains between excitability and excitement, that the more weakly the exciting powers have acted, or the less the stimulus has been, the more abundant the excitability; the more powerful the stimulus of the agents, the excitability becomes more exhausted."

The oil of turpentine, we may now observe, is the application which we prefer, and will recommend in burns. The observations here made, are intended to countenance the use of this remedy.

Whether all and each of the above assumed principles be fundamental truths or not, we shall not presume to decide, nor, indeed, to call in question. We would only observe, that as Dr. Kentish stimulates the whole system, and disapproves of bleeding in burns, he ought, on his principles, to bleed in frost bite.

We are sorry, however, that we cannot take leave of Dr. Kentish, without the reflection, that his principles (not his

practice) appear to us to carry their own refutation in the very face of them. Pouring down hot brandy, and throwing the heart and arteries into the greatest possible action compatible with life, is surely not calculated to lessen *increased action*, unless through the intervention of mortification.

But if we examine the actual practice of Dr. Kentish, as detailed in his cases, it will be found not to correspond with his theoretical injunctions. Those who were the subjects of his practice were, for the most part, young colliers, to whose habits, Dr. Kentish says, "a generous diet is congenial—they live well, when well; and they think that what does them good in health, cannot do them harm when they are ill, if they have the inclination to take it, and the ability to get it." In patients whose previous habits have been rather intemperate, a free use of stimulants would be the more admissible; and, in all cases of severe burns, stimulants will be necessary to counteract the depression they produce. Dr. Kentish, finding stimulating local applications more beneficial than mild and sedative remedies, and the antiphlogistic general treatment injurious, especially in the more extensive burns, appears to have been at a loss for a rationale of the fact, and adopted the principles we have explained. On this subject Mr. Samuel Cooper observes, that Mr. Kentish's theories are certainly *visionary;* they may amuse the fancy, but can never improve the judgment. He is a man, however, who has had superior opportunities of observing this part of practice; and *the great success of his plan of treatment* has acquired very extensive approbation, although, he adds, there are still many practitioners who prefer the common methods, and the antiphlogistic principles. Our distinguished countryman, the late Dr. Dorsey, while he highly commended the application of the unguent-terebinthin., pronounced the theory of Dr. Kentish by no means satisfactory.

The profession owe their acknowledgments to Dr. Kentish, for the important innovation in the treatment of burns, for which they are indebted to him. Fernelius, it is true, more than two centuries ago, confided in *topical* applications of a stimulating nature—a mixture of onions and salt, or oil and salt, particularly; but this merits no other consideration, than as it tends to confirm the correctness of Dr. Kentish's practice, and accords with our opinions on the subject.

A more recent author,* Mr. Dickinson, now claims our

* Remarks on Burns and Scalds, by Nodes Dickinson, of the Royal College of Surgeons, Staff Surgeon to his Britannic Majesty's Forces, &c. London, 1818.

attention. With a zeal highly commendable, Mr. D. attempts to disprove the charge of a vague state of medical science and practice, in burns and scalds; and to show that the *alleged* varied and opposite modes of treatment have a *common principle* for this foundation; that from the operation of spirituous and aqueous, hot and cold, applications, there is, in truth, a similarity of result arising from the effect which each produces, of abstracting heat from the part, and *diminishing vascular action.* Although his practice, in cases of severe burns, accords very nearly with that of Dr. Kentish, his principles differ materially. According to Mr. Dickinson's views, burns rank among the phlegmasiæ; and, as they vary in their degree or severity, they also differ in *kind.* According to their degree, within certain limits, (and it is to be wished the author had drawn the boundary line more distinctly,) the local as well as the general affection is purely inflammatory; beyond these (indefinite) limits of severity, the increased excitement produced by the potent stimulus of caloric is rapidly succeeded by general debility, insomuch, that mortification and death will be liable to ensue, from sudden exhaustion of the vital powers. The contrast between this theory, and that advocated by Dr. Kentish, is apparent. The latter, it is true, supposes the local action increased, but the general action not harmonizing with this, a disparity of action is assumed as the result; and the indications of cure, as we have seen, are directed to restore the unity of action between the part and the whole system. Mr. Dickinson asserts that the general system sympathizes directly with the part affected; and denies the possible existence of a disparity of action, either in the case of burns or frost bite, from which latter we have seen that Dr. Kentish derived analogical arguments to support his doctrine.

In one *kind* of burns we find Mr. D. inculcating the whole of the antiphlogistic treatment; and, in another kind, *stimulating treatment locally and generally.*

It appears very difficult to abandon the idea of increased action, which is so intimately associated with the mere mention of a burn, or inflammation. Mr. Kentish admitted (we must repeat it) an excessively *increased action in the parts,* and still we find these remarks in his own work. Certain it is, that the idea of inflammation in burns has influenced the opinions and practice of all writers, from the earliest periods of medical history, to the present time.* "All the combined

* We have seen that Heister first ventured to describe a burn as an inflammation; φλεγμον, or inflammation, was derived from the analogy between burning and inflammation, in the medical sense of the word.

means to overcome increased action, present themselves to the mind," says Dr. Kentish! "the moment the term inflammation is mentioned; and this magical term is always accompanied with the idea of bleeding, purging, and a low diet."

If increased action did exist, we would ask Dr. Kentish if the practice, which he condemns, would not be much more rational than that which he approves? Indeed Dr. Kentish is reduced to the necessity of denying that a burn is an inflammation. "As it appears to me," Dr. Kentish observes, "that the too general acceptation of the similarity of burns and inflammation, has led to erroneous conclusions, I must, therefore, venture to deny that a burn is an inflammation, though it may, in its consequences, produce an inflammation."

[To be Continued.]

ART. X. *Remarks on the Advantages of Pathological Anatomy.* By FRANCIS O. DOUCET, M. D., of New York. (Read before the New York Medico-Chirurgical Society.)

BICHAT, by the creation of general anatomy, gave a new direction to the study of the pathological structure of the human body; and all his immortal writings are replete with his ideas on this science; but it must be confessed that his premature death did not allow him to carry it to that perfection it would undoubtedly have reached under his masterly and unrelenting efforts. In 1803, M. Dupuytren gave his first course of pathological anatomy, the first which had ever been delivered on that particular branch of medicine. Being at that time the head of the anatomical department in the French metropolis, he assembled together all its diffused materials; and, disregarding the organs themselves, the anatomical and nosological classifications, he applied himself exclusively to the nature of the alterations of texture, and the symptoms that accompany them; and established the various species, genera, orders, and classes of organic lesions, thereby raising pathological anatomy to the dignity of a science.

Autopsy has revealed all the positive knowledge we possess of the secrets of life. The art of opening dead bodies is of a recent date. It has been productive of the most beneficial consequences, and overthrown many of the nosographical foundations. Are we, then, to consider the science which has resulted from those labors as the basis of medicine? Is pathological anatomy destined to perform such

brilliant achievements? Does it really point out the nature of diseases, as well as their most speedy and certain modes of cure? May it not become a source of errors, and lead to baneful results? Has it greatly diminished the bills of mortality, (laying aside the consequence of the discovery of vaccination?) It may, it is true, enable us to form a more correct idea of the forms and physical results of diseases; but can we say that we cure phthisis, tetanus, cancer, hydrophobia, and many other dangerous and long standing pathological affections, more frequently than our ancestors?

During several ages, physicians paid but little attention to ascertaining the seat of the affected organ, and never sought knowledge from the mortal remains of the unhappy victims; but, giving full sway to their imagination, and overstepping the limits of facts, they multiplied almost ad infinitum the number of the genera and species of those complaints. When the necessity began gradually to be felt of confirming facts derived from chemical observation, by the test of post mortem examinations, physicians at last were enabled to overcome the difficulty, and pathological anatomy afforded them the means.

We will examine what influence pathological anatomy possesses in elucidating the diagnosis in fevers, neuroses, hemorrhagies, and phlegmasies.

Pinel locates the mucous fevers in the primæ viæ, and asserts that, in bilious fever, there exists an irritation of the stomach with that of the liver. Some time after him, a new *pyretological* doctrine appeared, founded upon the principle that all essential fevers are but inflammations of the mucous membranes, especially of that of the stomach. M. Broussais, its author, bestowed a particular share of attention on the mucous surface of the stomach and intestines, and found it inflamed in a great variety of cases, where no phlegmasia had been at all suspected. He adduced a great number of proofs, both theoretical and practical, in support of his opinion; and derived great benefit from a strict adherence to the two following requisite qualifications—the habit of a scrupulous observation of the phenomena of disease during life, and a careful examination of the state of the parts after death. A particular organic affection, which was not sought for nor even suspected, is discovered; a viscus, presumed to have been healthy, is found to be the seat of a profound alteration of tissue; certain phenomena of pathology which it had been found impossible to account for at the bedside of the patient, are brought to light in the dissecting room.

It was a question whether all the essential fevers produce

such organic lesions as may be apparent after death; and whether several of them might not prove mortal without leaving evident marks of inflammation in the primæ viæ. Arsenic often causes death with an astonishing rapidity, without the appearance of the least vestige of phlegmasia, and we know that, in the more intense cases of yellow fever, the intestines are not always found inflamed.

If pathological anatomy has been unable to account for the various forms and succession of symptoms, it has improved the diagnosis and the treatment in fevers. The inattentive physician sometimes performed a cure; but more frequently he kept up and exasperated the disease by means of bark, purgatives, and the most violent repulsives, and navigated at random on an ocean of uncertainty.

The analogy between these diseases and inflammations is demonstrated by the opening of dead bodies, and the danger of such destructive methods is immediately recognized. The physician learns that he is to treat irritations by means appropriate to their nature, such as regimen, diluents, mucilaginous substances, evacuations of blood with a judicious employment of revulsives and tonics.

The improvements in pathological anatomy have added but little to what we already knew of the nature of the diseases of those nervous branches connected with the cerebral functions, the digestive and the other sets of organs.

Several physicians think, with some apparent plausibility of reasoning, that neuralgiæ are but phlegmasiæ; but the affected nerves, examined after death, have shown no evident marks of inflammation; some pretend that they are affected with a sort of dropsy; others that their fibres are found with an œdematous cellular tissue. The volume of those nerves has been found considerably increased, their vessels developed, and affected with a sort of varicose dilatation; and, in most cases, nothing has been seen at all. Even where the nerve presents some organic lesion, it remains to be determined whether that lesion is a cause or an effect.

Well conducted post mortem examinations have greatly improved the theory of apoplexy, which is the ordinary effect of most cerebral irritations; pathological anatomy has taught that an effusion of blood in the brain, is not necessarily mortal. Morgagni had already suspected the means employed by nature, for preventing the consequences of that grave accident. M. Rochoux has described the various disorders arising from extravasations of blood in the brain; and shown that they usually take place in the substance of the organ,

sometimes on its surface, or that of the ventricles. M. Riobé says, that apoplexy, wherein the blood escapes into the centre of the brain, is susceptible of cure; a particular membrane is formed around the extravasated blood which is dissolved by the serous fluid secreted by that membrane. The blood being thus dissolved, is taken up by the vessels of the accidental membrane, and at last totally disappears. Numerous cases of palsy, the material cause of which is an extravasation of blood in the brain, are gradually cured in consequence of the absorption of the fluid. The organization of those membranous cysts, and their successive transformation, have been discovered; analogy has led to the presumption that they were the product of a gelatino-albuminous exudation of the brain, which is kept in a state of irritation by the contact of the extravasated blood. A false membrane is soon formed, and this new organ becomes the special agent of cure. The discovery of the spontaneous cure of bloody extravasations in the brain is of no small importance to the practitioner. Although the treatment has not been very materially benefited, the principal object is to combat or destroy the cerebral irritation in its embryo, before it has time to acquire such intensity, as will give rise to a softening *(mollities)* of the brain, or to the apoplectic extravasation.

The influence of pathological anatomy on the diagnosis and treatment of mania is not very remarkable; the detailed accounts of the opening of bodies after every sort of mental derangement, are pretty insignificant, and lead to opposite and uninteresting results. It is in vain that the dissector has sought for the nature of epilepsy, hypochondriasis, and tetanus. There seems to be a better prospect for hydrophobia. M. Trolliet has observed in the bodies of persons dead of hydrophobia an inflammation of the brain, and of the mucous surfaces of the aerial passages, extending from the ramifications of the bronchiæ to the pharynx; the inflamed parts are found covered with a frothy serosity. These details are insignificant in therapeutics.

It is probable that dropsy will not form a distinct class of essential fevers in future nosographies; hydrocephalus will rank among the cerebral irritations; hydrophobia, among the diseases resulting from an obstacle to the circulation, from aneurysms of the heart or aorta, and from thoracic inflammations. Ascites will also be referred to abdominal inflammations and irritations; the great quantity of serum does not constitute the whole disease, as some have thought, though erroneously, because they give to the product of the irritation

the importance which exclusively belongs to the irritation itself. Dropsy, being most generally symptomatic, is, for the most part, consequent upon chronic indurations, and organic diseases of the viscera contained in the large cavities; but are they constantly the result of these slow inflammations? Is it not likely that the collection of serum and the alteration of the organic tissue occur from the same cause? These are questions of vital importance, which pathological anatomy has hitherto failed to settle. Cysts have a great analogy with the serous membranes; like them, they are sacs without openings, of a pale white, adhering by one of their surfaces, and composed of only one lamen. Hydatids are most generally found in the large fibrous cysts of the liver, where they give rise, according to their number and volume, to more or less serious accidents. Numerous researches have been made for distinguishing by certain signs the hydatids of serous cysts, but without success.

Encysted dropsy may take place in any one of the great splanchnical cavities, but always in consequence of irritation, and its development occurs in the same manner as all false membranes are organized.

The researches on serous productions made by men who cultivate pathological anatomy with advantage, seem to demonstrate that they are at first a secreted liquid which becomes organized, and subsequently a secreting organ. Let one of the fluids escape out of its natural vessels, let a new matter be formed under a tissue, the irritation resulting from it gives rise to a serous exudation; this serum becomes organized, and forms a cyst which nature employs, first for the purpose of isolating the extraneous substance, and afterwards for destroying it. We are indebted to pathological anatomy for the knowledge of this admirable phenomenon; it has taught us how, the exhalation predominating over absorption in the cysts, these sacs become filled with serosities which, by their gradual accumulation, progressively increase the dimensions of their parietes. Vide dropsy of the ovaria.

Much labor has been bestowed with the view to determine the nature of hydrocephalus internus, or dropsy of the ventricles of the brain; yet we know nothing positive on this subject.

Every one is acquainted with the pneumo-thorax of Laennec; and it would, therefore, be useless to dwell at length on this matter. Mediate auscultation and percussion are here very beneficial; those who have already made a trial of this new means of investigation, must be satisfied of its

advantages, and those who have not, will be much benefited by it.

The opening of dead bodies has thrown but little light on hemorrhage; this disease was long classed among those called vital. But can we conceive life independently of the organs, or is it susceptible of anomalies foreign to the tissues it animates?

Laennec has enriched what he has said of pulmonary apoplexy with precious details of pathological anatomy. He thought that, in slight hemoptysis, there existed a disorder in the vital properties of the mucous membrane of the bronchiæ, an anomaly in virtue of which that membrane secretes blood; but he conceived that there is something more in violent and copious hemoptysis; the cause of this sort of hemorrhage, at first, necessarily produces an irritation, an engorgement, a hardening, always partial and limited, of the lungs. This engorged part is quite circumscribed; its color is a deep brown red; when cut through, it looks granulated, but differs materially from hepatization; its aspect is homogeneous. This lesion, says Laennec, is evidently the result of a sanguineous exhalation in the parenchyma of the lungs themselves; the exhaled blood becomes coagulated in the aerial cells, and identifies itself, as it were, with the pulmonary tissue.

We shall next examine the influence of pathological anatomy on the diagnosis and treatment of phlegmasiæ. The great majority of diseases depend on irritations. This principle is explained by physiology. In the state of health, a continual excitement supports the organic actions, and its agents are of two kinds; the one stimulate the organs, but add nothing to the mass of the materials of which they are composed; the other, also, stimulate them, but, at the same time, repair by nutrition the continual losses the body undergoes. Hence we acquire the idea of the disposition of all the tissues to over excitement. There is, however, a cause more frequent, more energetic, and more general, of the irritation of our organs; this is the exercise itself of their functions which is kept up by particular stimulants, and the combination with that exercise of external stimulating causes.

Under the influence of the various general and local causes of excitement, the nervous ramifications, which form part of the elements of our organs, are modified, irritated; (for the nerves are always the primary seats of disease;) the stimulation is secondarily carried to the capillaries, which are blended and confounded with the other organic elements.

The fluids are drawn to the part where the irritating object is located; pain supervenes; the functions of the organ are disturbed, without their texture being, as yet, altered. To these local effects are added the general lesions of the nervous system, which has been primitively affected; the sanguiferous system, though but secondarily invaded, is the ordinary seat of irritation. The affection of the lymphatics, for the most part, follows that of the bloodvessels and of the nervous ramifications, in consequence of the unrelenting activity of the irritation; the organic texture is altered, and the disorder of the functions makes rapid progress.

This disorder, carried to a very high degree, may produce death before there exists a real phlegmasia in the diseased part. M. Begin, hitherto the most faithful interpreter of the doctrine of M. Broussais, has demonstrated that death is brought on, not by the local affection, but by the general disorder which the irritation has sympathetically determined.

M. Cruvelhier has given very valuable details of pathological anatomy relative to the cicatrization of wounds and ulcers, the organization of fistulæ, the formation of callus, the cure of contusions, all of great practical utility. How does the reunion of the two edges of a wound in the soft parts take place? How is the continuity of tissue restored, where there has been a loss of substance? The lips of the wound are seized with inflammation; the place becomes painful; the inflammation extends more or less to the surrounding parts, and gives rise to an exudation of some consistence, which becomes organized and is tranformed into a false membrane, and proves the agent of reunion. If there be a loss of substance, the new tissue organizes itself from the circumference to the centre, and covers the vascular carunculæ of the wound. If the wound be in contact with the external air, whatever be the wounded tissue, the circatrix is invariably the same; it is always a tissue analogous to the skin. But if the solution of continuity be internal, the agent of reunion is always a tissue analogous to the divided bone, cartilage, tendon, or muscle. The process of cure of an ulcer is the same as that of a wound in suppuration.

We are indebted to pathological anatomy for the knowledge of the true theory of the formation of callus, a theory important to be known, although it is nearly useless with respect to the diagnosis and treatment of fractures. The union of the two fragments of a fracture is the effect of various agents. Blood is thrown out by the ruptured vessels, extravasated and coagulated between the two fragments; a particular viscous fluid is secreted between the periosteum and

the bone, and comes also from the neighboring soft parts and from the surface of the solution of continuity; this fluid becomes more copious and consistent, and it confounds itself with the neighboring parts, forming between the fragments, the periosteum, and bone, a red tissue, and increasing its density. The periosteum is inflamed, enlarged, and totally blended with the neighboring irritated parts, which also assume the appearance of the red substance lying between the fragments; the medullary cavity is rendered narrower by a sort of cartilage, afterwards by an osseous tissue connected with the red substance. The callus successively becomes fibrous, fibro-cartilaginous, cartilaginous, and, lastly, osseous; and the periosteum, the soft parts, and the medullary canal, slowly resume their natural state.

The diagnosis of cancerous diseases has not been much benefited by the discovery of the scirrhous and cerebriform matters. It is always very difficult to pronounce with accuracy upon the nature of an engorgement, with pain of the mammary glands, when the degenerescence has not yet made considerable progress; and the uncertainty is still further increased when the stomach, the uterus, or the lungs are affected.

There exists an organic alteration, which we ought to mention in this place; it is melanosis, a variety of cancer. MM. Dupuytren and Laennec have contended for the credit of the discovery. We know the different sorts of melanosis, and it has been found in almost all the tissues. Examined at the different periods of its development, it has left no trace of the existence of vessels, fibres, and cellular filaments; and it appears to be the result of a secretion rather than of the decomposition or degenerescence of a tissue. M. Breschet presumes that melanosis proceeds from vitiated blood, and is the result of a morbid secretion. This opinion is corroborated by the chemical analysis made of it.

Is the tubercular, scrofulous degeneracy the consequence of irritation? Those tubercles are composed of an opaque matter, of a pale yellow, sufficiently consistent, analogous to concrete albumen, which afterwards becomes soft, caseiform, pultaceous, and puriform. They are either encysted or not; their shape is spheroidal, but irregular; they often occur in the lungs, the cellular tissue of the neck, groin, armpits, and mesentery; in the lymphatic bodies, the mucous membranes, the liver, in a word, in almost all our organs. They spontaneously throw out their contents, and constitute ulcerated cavities, the parietes of which are formed out of the tissue of the organ itself, or of a smooth, red, and very thin membrane.

Pathological anatomy was alone capable of showing that the phlegmasia of the brain, and that of its membranes, are different diseases; that, in certain cases, the brain is the seat of inflammation, while every one of its membranes is sound; that there are others where the phlegmasia is confined to the arachnoides. In frenzy the arachnoides is red, but this color is not uniformly extended; brown, blackish spots are spread over various points of it; it is sometimes covered with numberless tubercles or granulations, and often considerably thickened. The cranium of frenitic patients has several times been found to contain a serous, purulent liquid, ulcers, hydatids, steatomatous and scirrhous tumors, false membranes, and cysts.

How perfect must not be the tact of the physician who is able to delineate, at the bedside of the patient, disease of the arachnoides, either cerebral or spinal, meningitis, and cephalitis. M. Lallemand has discovered a very precious sign for the diagnosis; there is no delirium when the inflammation of the brain is from complication; this symptom belongs especially to arachnoiditis. The arachnoides, when inflamed, irritates the brain by its contact with it.

There is no uncertainty respecting the seat of pleurisy. This phlegmasia is followed by several sorts of organic lesions, the most remarkable of which is adhesion. In a state of inflammation, the serous membrane exhales at its internal surface a somewhat concrete matter, semitransparent or opaque, of a more or less yellowish white, of a consistence which may equal that of the buffy coat of the blood, and of the thickness of half a line to two lines. Adhesions have a useful tendency; they are an obstacle to extravasations of pus in the cavity of the pleura; but sometimes they impede the free and regular exercise of respiration.

The diagnosis of the phlegmasia of the pleura pulmonalis is much indebted to pathological anatomy. This science has taught that the thoracic viscera may be alone inflamed, and efforts have been made to determine the characters peculiar to each of them; the existence, the seat, the quantity, more or less great, of the sero-purulent extravasation, can be ascertained during life. The difficulty of breathing, and the lacerating pain that sometimes remains after a pleurisy which has been cured, are explained by the knowledge acquired of the false membranes and the adhesions of the pleura to the parietes of the chest, or to the lungs. Now that we know that all phlegmasiæ of the parenchyma, or the cellular substance next to the pleura, cause the inflammation and adhesion of the parietes of that membrane, there will be no

longer any fear of purulent extravasations in the cavity of the chest, in consequence of abscess in the lungs or the cellular tissue external to the pleura costalis. There are two powerful means of identifying with precision the alterations of tissue subsequent to pleuritis; these are percussion and mediate auscultation. Both are useful only to those who possess an intimate knowledge of the pathological anatomy of the diseases of the chest; yet whatever therapeutics may have gained is by no means to be compared to the immense progress made in the diagnosis of those diseases.

Great care has been taken in describing the organic lesions consequent upon inflammation of the pericardium, the redness of its serous membrane, its granulations, the white spots sometimes found upon it, its adhesions, its false membrane, the extravasations in its cavity, and yet it is now, as it was before the knowledge of these phenomena of pathological anatomy, extremely difficult to ascertain their existence during life, and not one of them is yet known to be accompanied with a pathognomonic symptom that would positively indicate the existence of that phlegmasia; there is no positive means to distinguish it from the organic lesions of the heart, that often coincide with it, and the phlegmasiæ of the lungs and pleura, along with which it also frequently exists. The openings of bodies have shown the existence, in many individuals, of an intimate adherence of the pericardium with the heart.

Peritonitis has been discovered by Johnson, Walter, Laennec, and Corvizart. Previous to the researches of those physicians, what absurd theories had we not, and what numerous dangerous consequences deduced from them, on the subject of what was called the puerperal fever of lying-in women? It is now well established that the peritoneum may be alone inflamed; that its inflammation has a perfect analogy with that of the pleura: we no longer call it an effusion of milk.

A new organic lesion has just been discovered by pathological anatomy; it is the softening of the brain; it has been discovered by Abercrombie, Lallemand, and Rostan. It is not an essential disease, but an alteration of tissue consequent upon inflammation.

Pulmonary catarrh is an inflammation of the glands and cryptæ of the mucous membrane of the aerial tube. M. Laennec considers the rattling noise as one of the principal signs of the pulmonary catarrh. If the stethoscope be applied to the chest at the commencement of the disease, a rattling noise is heard which is often very loud, generally

sonorous, sometimes tremulous, and indicating, by its tremor, the point in the lungs from which it comes. M. Laennec has been inclined to think, from the facts he has observed, that the rattling is the more grave and sonorous as the serosity is less copiously secreted, and the internal coat of the larger trunks of the bronchiæ more tumefied.

The dilatation of the bronchiæ, affecting but a small portion of their ramifications, may exist in all parts of the lungs, but more commonly in the superior lobe. If but one or two bronchial ramifications are affected, the symptoms are an habitual, generally rare, and slight cough; but if the disease is extensive, the intermediate parenchyma of the lungs is flaccid, deprived of air, evidently compressed, and exactly in the same state as when the viscus is pushed to one side, by an extravasation in the chest; then the dilatation of the lungs brings on a chronic catarrh, which remains for life.

The real ulcers, without tubercles of the lungs, are extremely scarce; the application of the stethoscope to the anterior and lateral parietes of the chest indicates the exact seat and extent of excavations within its cavity. When the patient is made to speak while the cylinder is applied, and the ear of the physician adapted to its extremity, the voice seems to come directly from the chest, and pass entirely through the centre of the instrument. Another phenomenon different from this is, that when a cylinder is applied, and the patient made to speak, his voice, which is, as it were, argentine, produces an illusion such that some one appears as if speaking in the chest of the patient; it is trembling and jerking, like that of a goat; this phenomenon exists only in those affected with acute or chronic pleurisy, with some extravasation in the pleura.

The history of the lesions of tissue, consequent upon phlegmasiæ of the thoracic organs, is the most brilliant page of pathological anatomy; it has determined their nature and seat, and pointed out their symptoms with great precision, some of which could never have been discovered without it. Before the cultivation of that science, pleurisy and pneumonia were alone perfectly understood, though their history was by no means complete. The diseases of the pectoral organs are very numerous and violent; their symptoms are almost alike; dyspnœa, cough, and expectoration are to be observed in most of them; very little information can be had from the exploration of the pulse; the percussion of the chest, after the method of Avenbrugger, is much more to be depended on; it has greatly improved the diagnosis of those

diseases; and Laennec considers it one of the most important discoveries that has ever been made in medicine.

With the precise nature and seat of the majority of diseases, clinical observations cannot make us acquainted. It lends its aid to every system; the same facts are the support of every opinion, and nothing can be more variable than symptoms. Widely different are the positive and unchanging objects of pathological anatomy. It bends the attention to the distinct lesions of the tissues; it offers infinitely greater certainty than symptomatic nosology; it describes better and with much greater precision. Few words are necessary to characterize asthma, emphysema of the lungs, and phthisis, while the same pathological affections, studied after the manner of Sauvages, fill many volumes. Is it not an immense advantage to be freed from those long and tedious digressions, upon the proximate causes of diseases, which delighted our ancestors—those vain theories, which succeed each other, as on the surface of the troubled ocean the wave which approaches follows that which has passed—those hypotheses, infected with the errors of the times that produced them, of which was composed nearly the whole of medical science? Will not pathological anatomy preserve medicine, for ever, from a return to the ages of ignorance and barbarism? And, now, is it not infinitely preferable to study melanosis, the encephaloides, and the transformations of the tissues, for the diagnosis and the treatment of diseases, than to consume our time and fatigue our judgment with fruitless meditations upon the vital principle—the force of vital resistance—the force of permanent situation—animal and organic, sensible and insensible, contractility, and so many other scientific and unintelligible follies? Pathological anatomy treats of physical alterations. It is occupied exclusively with the materiality of diseases; it describes all the lesions of position, form, volume, and texture—of density, color, and the relations of which the different parts of the animal economy are susceptible. By its means, physicians have been able to classify a great number of diseases—to distinguish their orders, their genera, and their various species. Without it, it is impossible to fix the seat and ascertain the precise character of the disturbance of the functions existing in an organic lesion. The time of abstractions and chimeras is passed, and the reign of facts and certainty is come. Thanks to pathological anatomy, we observe better and explain less; physicians have more circumspection, more criticism, and more method. The most important service that it has rendered to the cause of medicine is the furnishing a new means of

bringing together those diseases which are of the same nature, and of separating those which, notwithstanding the similarity of their symptoms, are of a nature really and widely different. We now know that the identity of an organic lesion establishes an identity of nature between species of the same genus, and, setting out with this principle, we regard, as belonging to diseases of the same order, those lesions which present the same mode of organic alteration, whatever may be their seat and the diversity of their symptoms. Thus pathological anatomy has given their true character to the cancerous, inflammatory, and tuberculous affections which, having their seat in all the organs, with symptoms widely different, show lesions of the tissues and degenerations, always and everywhere the same.

Without pathological anatomy, how would it have been known that phlegmasiæ of the membranes and of the parenchymata, having become chronic, betray symptoms of a particular form? That in arachnoiditis, the symptoms of phlegmasia differ as a particular portion of the serous membrane is inflamed? Without it, how could we have learned the manner in which nature cures the effusions of blood in the brain and tubercles in the lungs? How insufficient and delusive is clinical observation, when we seek to establish the diagnosis of the greater part of the diseases of the organs enclosed in the splanchnic cavities? Asthma is exhibited there, as an organic lesion of the heart. Are you called to see a nervous ataxic fever—the arachnoides is inflamed; a spasmodic affection of the stomach—the pylorus is disorganized by a scirrhus. Deceived by clinical observation, physicians often take the effects of the complications for their causes, and sympathetic phenomena for the essential affection. M. Laennec affirms that pathological anatomy is indisputably the most certain means to guide the physician as well to the knowledge of diseases as to the means of curing those which are susceptible of cure.

These are the claims of pathological anatomy. Let us now see what its adversaries say of it.

Diseases consist in a disorder—a disturbance of the functions, which necessarily supposes a primitive alteration in the natural state of the organs. This alteration has always its seat originally in the nervous system, whatever may be its terminations. There are diseases whose character appears to be an affection of the nervous power; there are others, which degenerate into lesions of the tissues. The latter leave upon dead bodies unchanging and distinct traces of their existence. The former cause death without leaving any vestige or any

sensible mark by which to know them. What are the anatomical characters of tetanus, of mental alienation, of hypochondria, of epilepsy, and of so many other neuroses? Can the alterations of tissue, (so unlike in their nature,) which they sometimes leave in one or another viscus, explain the symptoms by which they are manifested? A spasm of the heart, the brain, the lungs, may cause instant death; but when such has been their result, where is the evidence of their existence? Do not the yellow fever, the typhus, and gastro-enteritis destroy life and leave untouched the texture of all the organs? Do not the causes of death act with astonishing activity upon the nervous power exclusively? There are, then, diseases which produce no material organic lesions; pathological anatomy, therefore, cannot be the basis upon which can be established the whole of the medical science.

The endeavor to establish a classification of diseases upon pathological anatomy has been unsuccessful. It is without cause, that some physicians, after having upon great probabilities suppressed the whole class of essential fevers, seek to make conquests from the neuroses for the benefit of the phlegmasiæ.

In a great variety of circumstances the alterations which an organ exhibits after death in no wise explain the morbid phenomena observed during life, and in such cases the sympathies alone can tell us the cause of death. And the various lesions that the viscera exhibit—the evident traces of inflammation upon the mucous membranes, consequent upon ataxic and adynamic fevers, are they the cause, or the effect, or complications of these diseases? Can pathological anatomy solve the problem? Does it not increase the difficulties of the solution? How many individuals die of a diseased brain, after having had the lungs originally affected? Does it not sometimes happen that a collection of blood—a mortal effusion in an organ, originates at a very remote point? and in that case, does not autopsy lead into error by exhibiting the effusion, the collection, and the phlegmasia as the essential disease? Is not the arachnoides in the basis of the brain, soon after its attack, sometimes accompanied with a gastritis, whose extreme violence conceals from the eyes of the physician the point where the disease originated?

Pathological anatomy makes us acquainted with physical lesions alone; it confines our attention to them; it makes us almost forget what they have originally been; it almost always leaves us in great uncertainty, and often in total ignorance, of the manner in which those degenerations are born and formed. Bayle says, (and he wisely appreciates patho-

logical anatomy,) that the opening of corpses can only instruct us in the effects of diseases, and in their occasional causes; it can never assist us in discovering the vital lesions which constitute their essence. Pathological anatomy has, however, had great influence upon the progress of medicine in general, in giving to it more precision, in rendering it more positive, and in elevating it, in many respects, to the rank of the exact sciences. A great number of internal diseases were little known; it has thrown light upon their diagnosis. By it many very common organic lesions have been discovered. Clinical observation, important of itself, has become more methodical, and has made infinite progress. Its influence, however, upon therapeutics has not been as great or as happy as might have been hoped. We cannot have invariable principles of pathology. Our ideas of the nature of diseases cannot remain the same so long as time in its rapid course is continually removing things and men. There are no physicians who have not lost much in remaining stationary, in the midst of the discoveries which mark the succession of ages. There is none, whose opinions during his short career have not been subject to changes without limit, by which, at times, more or less remote, they have been almost wholly renewed. Thus our tissues, destined to wonderful metamorphoses—continually receiving new elements and continually wasting by losses, are many times, during the short course of our existence, entirely changed in their composition. Theories are every day discovered, and every day, by consequence, must theories be essentially modified. Some physicians see prevailing, at the decline of life, the doctrines and opinions which obtained in their earlier years. Science does not stop its progress; it advances, and, to follow it, continual efforts are necessary. We sometimes seem to have accomplished our purpose, and to be able, at last, to taste the charms of repose; but a new truth has been pointed out, and we are compelled to new toils. The rock of Sysiphus has again descended. To forget and to learn—to learn and to forget, is the destiny of the physician.*

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* For many of the facts adduced in this paper, I am indebted to the work of M. Ladeveze.

ART. XI. *Case of Recovery from Poisoning by a Large Dose of Arsenic.* By HENRY G. DUNNEL, M. D., of New York.

FEBRUARY 1st, 1827, at 4 P. M., I was called to visit Isaac Matthews, æt. 30, a robust and athletic man, of intemperate habits. I found him in strong convulsions; face and eyes very red; pulse full, quick, and hard. He had been observed to take a table spoonful of a white powder, at three several times; the first, about half past 2 o'clock, and the last, twenty minutes previous to my visit. The powder had the appearance of arsenic.

I had always supposed, from the toxicological synopsis of poisons, that nausea and vomiting were among the first symptoms of this poison, and was, therefore, somewhat surprized to learn no such effect had occurred.

The jaws were pried apart sufficiently to admit a solution of ʒss. sulph. zinci., which not having the desired effect in ten minutes, ʒi. more was given, which soon evacuated the stomach. The emesis was encouraged by large and often repeated draughts of sugared water and milk.

6 P. M. Sensible; complains of a constriction of the upper parts of the larynx, as if from a tightly drawn cord. The least movement of the head, to either side, produces an appalling sense of instant suffocation; darting and pungent pains of the eyeballs. Conjunctiva very florid; tormenting gripings about the umbilicus; abdomen distended enormously; occasional vomiting; pulse very weak and feeble, scarcely to be felt; and every few minutes convulsions supervene. The only effect the patient experienced from the arsenic previously, was a giddiness, as if intoxicated. A large enema to be administered, continue the drinks, and rice water to be taken freely.

11 P. M. The enema had procured large evacuations of very black and offensive fæces. Abdominal distension lessened; great tenderness of the bowels, even the weight of the bed clothes insupportable; a constant shivering, and cutis anserina; pulse continues the same; no convulsions have occurred for some time past; vomits his drinks. Enemata to be continued. Ol. ricini. ʒiss. in mint water to be given immediately.

2d. Has passed a very restless night; the oil had been retained; pulse full and soft; skin warm and moist; pains general throughout the body; but at the epigastrium the touch is agonizing. Hiccup is present occasionally. The pain of the head and eyes, constriction of the fauces, and sense of

suffocation are unabated; shiverings more intense, although he complains of feeling an ardent heat over the whole body; has vomited all night; the convulsions have ceased. The whole of the abdomen to be covered with an epispastic. The enema to be repeated, and the drinks of sugared water, rice water, and flaxseed continued.

2 P. M. I visited him in company with Dr. B. Bailey; found his pulse, soft, full, and slow; syncope occurs frequently; and there is no abatement of the pains. The enemata failed to evacuate the bowels, which continue distended; there is slight trembling and delirium. It was determined to give the following: ol. ricin., tinct. senna comp., aa. ℥ij. aqua menth piper. ℥iss.; of which a table spoonful to be taken every half hour, until free evacuations occur.

11 P. M. Somewhat relieved. The medicine was retained, and produced copious black stools; abdominal distension greatly lessened; a salivation has come on; and the constriction of the throat abates. A strangury and bloody urine having occurred, he is to have ℥i. spts. nit. dulcis every hour, and take the cathartic dose every two hours.

4th. All the symptoms abated; spitting continues; great distress was occasioned today from drinking half a pint of pure milk. Cathartic to be continued.

5th. Was relieved by the purge yesterday, but today the same symptoms arose from a small cup of chicken soup. A paralysis of the lower limbs has occurred; the patient moves them quite well in bed, but is unable to bear the least weight upon them, or to move forward, unless by the aid of his hands. The mixture to be continued, and no drinks allowed, except rice or sugar and water.

6th. The patient is sitting up, but unable to walk; feels much relieved; a slight tenderness of the epigastrium remains. The spitting of a thick viscid mucus continued for a few days after this date, and the paralysis obliged him to use crutches nearly a month.

The remainder of the powder was submitted to a chemical analysis, and proved to be good white oxyd of arsenic.*

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* The following processes were used:

To a solution obtained by boiling a few grains in distilled water, a small quantity of a weak solution of carbonate of potass was added; upon the addition of a few drops of a solution of sulphate of copper, a yellow green precipitate ensued.

To a quantity of boiled starch was added a few grains of iodine, which produced an azure blue; upon adding a small quantity of the solution of the powder, the color was destroyed; upon the addition, however, of a few drops of sulphuric acid, the color was restored.

One drachm was treated with black flux; a metal was reduced, having

The quantity taken was at least an ounce and a half; and the first table spoonful had remained upwards of an hour upon the stomach. This account was corroborated by his wife and mother, who were present at the time, but suspected nothing, as he assured them it was cream of tartar he had obtained for the purpose of curing an eruption.

This eruption of his skin had its rise in this manner: about nine months before, he had a chancre on the glans penis, which, black wash and caustic failing to cure, a buboe in the groin, proceeding fast to suppuration, induced him to undergo a mercurial course, until salivation occurred, when the chancre and buboe healed kindly. No other symptoms appeared until about two months previous to his attempt at suicide. Venereal eruptions, with the peculiar copper colored scabs, attended with foul ulcers, pervaded his extremities. He had taken no medicine for their cure, and they continued unabated, until he was able to move round on his crutches, when the scabs began to fall, the ulcers dried, and the skin became clear, before he had recovered a perfect use of his limbs. No more venereal symytoms made their appearance up to the time of his death, which happened (from smallpox) in March, 1828.

From this case, it would seem, that a large quantity of arsenic may remain upon the stomach some time without causing death; and in this subject it proved of essential service, freeing him from secondary syphilis, for which, I have no doubt, a mercurial course would have been the only cure, had not the arsenic been taken. How far it might be justifiable to carry the use of arsenic, circumstances attending each case would alone determine. But from the effect on this man, and what I have seen given in various cases of obstinate diseases of the skin, I am induced to believe large quantities may be taken without producing bad effects. That it is one of the best remedies we possess in the cure of many of the cutanei is well known; and I shall feel inclined to put its ability of curing secondary syphilis to the test at the first convenient opportunity.

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the appearance of polished steel, easily pulverized in a mortar, and burnt, upon being thrown on a red hot shovel, with a blue flame, attended with a strong odor of garlic.

A few minutes after the emetic first operated, a cat, belonging to the family, lapped of the evacuations from the stomach, which had been left in a basin. It was observed soon after to sicken, and to die of convulsions within an hour.

ART. XII. *Case of Anomalous Affection of the Kidneys.*

By R. K. HOFFMAN, M. D., of New York.

LIEUTENANT E., of the U. S. ship Ontario, arrived at Naples in August, 1816. He was in the prime of life, and possessed a strong constitution, unimpaired by previous disease. His appearance, during the preceding six months, had been unusually healthful. On the voyage from Gibraltar, he was admitted on the sick list for pains in the lumbar region, which ceased after the exhibition of a saline cathartic, the use of a pediluvium, and tepid drinks at bed time, and he resumed his duty. He had remarked to me, with a degree of indifference, that he was subject at times to acute pains in the groins, and had recently been observed to catch his breath and compress his sides for transient pain about the stomach. They attracted but momentary notice, and were scarcely regarded by the patient himself. He passed the 21st and 22d in the usual recreations on shore; and visited, among other interesting places in the vicinity of Naples, the Grotto del Cani. He stooped down to inspire the carbonic acid gas which this grotto disengages; and, on rising, was affected with nausea and pain in the stomach, from which he soon recovered. On the 23d, he remained on board in command of the ship, and in good health in the morning. On my return from the city, about ten at night, he complained of feeling deadly sick—nausea and vomiting, with severe paroxysms of pain about the navel, had succeeded to a chill; the fauces were inflamed; bowels costive; skin hot and dry; he felt great prostration of strength, while the pulse, by its strength and fulness, indicated unusual excitement. His symptoms were ascribed to a check of perspiration—the confined state of his bowels, repletion, and the unaccustomed exercise of the preceding days. He was bled to ℥xvj. from the arm, and a dose of fifteen grains of calomel with one of opium was administered; his feet were bathed in warm water, and fomentations applied to the belly. He passed a very restless night, with severe vomitings; and had two small discharges per anum. On the 24th, his countenance was visibly changed for the worse; he labored under constant anxiety and fretfulness; the excitement of the pulse was reduced; the throat relieved; but nausea and vomiting, with pain like that of colic, frequently occurred, and was increased by pressure on the abdomen. We thought further evacuations from the bowels to be indicated, and gave repeated doses of castor oil, endeavoring, at the same time,

to counteract the inverted action of the stomach by the common evacuations. These produced moderate evacuations. The skin was cold and dry.

On the third day, there was but little change in the symptoms. The nausea was less; but the gastric irritability so great, that all he swallowed was immediately ejected from the stomach, together with dark colored bile. The patient dozed in the intervals of vomiting, but had no sound sleep; his skin remained dry and cold to the touch. With the view of determining the blood to the surface, and of clearing the stomach and duodenum of their supposed offensive contents, a scruple of ipecacuanha was given, and its operation proved very distressing to the patient. His posture in bed was on his back, with the shoulders and head raised and supported by pillows, and he was observed to keep his feet elevated against his cot; thus relaxing the abdominal muscles. The tongue was coated yellow; the urine was scanty, and high colored. Three grains of calomel were directed to be taken every four hours, and a large blister was applied to the abdomen; his drink consisted of toast water.

Fourth day; had dozed much, with frequent starts and cries from pain during the night. The surface, generally, remained cold and dry, appearing to be deserted by the blood. No tension was perceptible which, in force and frequency, was below the natural standard; and, with the exception of a burning sensation in the region of the stomach, there was no change in the patient's feelings. Flushing of the face, which had appeared at times from the commencement of the attack, now became more constant; and the disposition to coma increased. Venesection to the extent ℥xx. was repeated, and a tendency to deliquium induced; copious discharges from the bowels succeeded; but the inverted action of the stomach was renewed with undiminished frequency, and the matter ejected presented the appearance of coffee grounds. The blood, on coagulating, showed the buffy coat, but no sensible relief of the pain was observed from its abstraction. The quantity of calomel was reduced to two grains three times a day; the blister dressed with mercurial ointment.

During the fifth and sixth days of the disease, flushed face, constant headache, cold and dry skin, dozing and sudden starts, vomiting and free discharges per anum, combined. The citrate of potass, with the addition of tinct. opii, was given in a state of effervescence, and immediately rejected. The patient complained of pain only in the act of vomiting. The apparent indication of obtaining free evacuations from

the intestines being fulfilled, we expected the inverted action of the stomach to cease, and ascribed its continuance to the state of the surface. The warm bath, diaphoretic and anodyne medicines, were resorted to without effect. The skin remained cold and husky. The use of calomel was continued, combined with pulv. ipecac. comp., on the sixth; and he rested with less disturbance during the night.

On the seventh day, the face continued flushed, and the discharges per anum copious and fœtid. He had eaten some water melon, oranges, and peaches, for which he had, at times, expressed a wish. He still preserved the fixed posture of the body in bed, and required assistance in changing the posture of his legs. In the afternoon, the patient complained and fretted much; had four stools, and vomited large quantities of dark colored matter. In the evening, the warm bath having been used without exciting the circulation in the skin, he became delirious, and used incoherent expressions; the face appeared more flushed; no increased action was perceivable in the carotid arteries. In passing my hand over the abdomen, a large tumor was felt strongly pulsating below the umbilicus, like an aneurism of the aorta. The symptoms of oppression of the brain, indicated by flushed face and delirium, induced me to try the effect of another bloodletting. About ʒxii. of blood were drawn from the arm; it appeared not to affect the pulse, but the patient sighed heavily during its flow, and the arm was bound up. A few moments after, he asked to be raised higher in bed; and in changing the pillows, his shoulders and head were suffered to fall lower than before, when he suddenly expired.

The contents of the abdomen were examined a few hours after death. No traces of disease were visible in the peritoneum, nor in any of the chylopoietic viscera; a hard and irregular tumor was felt posterior to the intestines, these were separated from the mesentery and laid aside. On raising the mesentery, which covered and confined this morbid enlargement, it was found to exist in the kidneys. Each was of thrice their usual size, united at their lower extremities, and constituting one body, which stretched across the spine, compressing the vena cava and aorta, just above the division into the iliac arteries.

The most prominent symptoms in this case of nephritis idiopathica, were morbid sensibility and irritability of stomach, pain in the umbilical region, flushed face, coma, and cold and dry skin. The facility with which evacuations were obtained from the bowels, distinguished the disease from enteritis—the absence of pain in the region of the kid-

neys, and of frequent micturition, together with the anomalous symptoms of the case, led to an incorrect diagnosis; and, consequently, to a defective plan of treatment.

In relation to the physiology of the kidneys, they are known to be subject to a good deal of variety in their natural appearance from their original formation; and that little or no disadvantage to the animal functions is produced by this variety. The subject of this case of congenital malformation of the kidneys, was especially liable to slight attacks of pain in the loins, but experienced no serious inconvenience from this cause, until the supervention of inflammation which terminated in his death.

ART. XIII. *An Anomalous Case of Enlarged Spleen.* By A. W. GATES, M. D., of Yonkers, N. Y.

J. SMITH, of Yonkers, Westchester county, N. Y., aged 49, who has been afflicted with disease for the last thirty years, was attacked, in 1825, with an enlargement of the spleen, which increased rapidly, and in the space of three months produced the most alarming and distressing symptoms, such as great dyspnœa, irregularity of the circulation, anorexia, peristattic motion of the intestines obstructed; during this and the subsequent stage he has been actively treated by mercurials internally and externally. A seton, mild cathartics, and other remedies, were employed, which only produced the effect of checking the growth of the tumor and relieving the symptoms temporarily. From this period until December, 1828, his case remained the same; the urgent symptoms were alleviated as they presented themselves; at this time his disease became aggravated, the tumor enlarged; a dropsical effusion commenced in the abdomen, which was complicated with all the usual symptoms of calculi, several of which were discharged through the urethra at different periods; the derangement of the stomach and bowels was much increased; the liver was also very much deranged; all these unpleasant symptoms continued increasing until the 25th of August, 1829, when he died.

Eighteen hours after death, I proceeded to the examination, assisted by Mr. P. Melvin Cohen, of Charleston, in the presence of the Rev. Mr. Crosby, S. Simson, Esq., and several other gentlemen. The lungs were closely adherent to the sides of the thorax, and were more extensively diseased than was expected from the previous symptoms. The cavity

of the chest was much contracted, and the diaphragm thickened. On opening into the cavity of the abdomen, the spleen was found to be very much enlarged and thickened, occupying the epigastric, right and left hypochondriac, the umbilical, left, and a portion of the right lumbar, extending down into the hypogastric region; it was firmly adherent to the peritoneum and intestines throughout almost the whole extent; on dissecting it, several small spiculæ of bone were found imbedded in the substance of the organ; the largest was near the entrance of the vessels, and was one and a half inches long, three quarters of an inch wide, and of a triangular form. The spleen was of an irregular oblong shape, weighing six pounds and fourteen ounces; several small abscesses were found in its substance, the largest of which was one half inch in diameter; the remaining chylopoietic viscera were much displaced, occupying a narrow space on the right side.

The liver was sound and presented a healthy aspect; the gall bladder was full of bile. The stomach was small, contracted, and empty, which, together with the intestines, were so adherent and altered in structure as not to be separated. The left kidney was perfectly sound; the pelvis of the right kidney was much enlarged, and contained a wine glass full of calcareous substance of a variable density; the ureter was enlarged; the bladder was much contracted, containing a table spoonful of a substance similar to, though softer than, that found in the kidney.

This is a brief account of this singular case, which, being of an uncommon nature, I have deemed advisable to forward for publication.

ART. XIV. *Observations in Midwifery, on Presentations of the Shoulder.* By J. W. HEUSTIS, M. D., of Cahawba, Alabama.

IN the practice of midwifery there are, perhaps, few situations which present greater difficulty to the accoucheur, than those presentations of the arm and shoulder, in which the membranes having been long broken, the child remains fixed either at the superior aperture of, or in the cavity of, the pelvis, firmly embraced by the permanent contraction of the uterus. This is Dr. Denman's *third distinction* of his second order of preternatural labors. In this order he includes the presentation of the shoulder, or one or both arms; in relation to which his general precept is, that "whatsoever of

these (that is, either the arm or the shoulder) is the presenting part, there is a necessity of turning the child, and delivering by the feet, for the interest both of the mother and child!" yet, from his own representation, it is sufficiently manifest, that to accomplish this is an undertaking of peculiar difficulty, notwithstanding the free use of opiates and venesection in cases when these are admissible. This operation is very methodically laid down by Baudelocque, from whose representation it would appear to be quite simple and practicable, and that nothing more was required than to introduce the hand, remove the shoulder from the superior strait, and, conveying the fingers along the back and lower extremities of the child, to arrive at the feet and bring them down; but when the waters have been already many hours discharged, and the uterus has contracted firmly about the child, enveloping it like a tight bandage in every direction, to introduce the hand and change its position in any way, is what, perhaps, but few are sufficiently fortunate or skilful to accomplish. And if, on the other hand, we adopt the cautious advice of Dr. Denman, to wait with patience for the spontaneous evolution or turning of the child, our conduct might be compared to that of the simpleton who watched for the brook to flow by him, that he might pass over dry shod. I do not pretend to deny, however, that such spontaneous evolution never takes place; the respectable testimony of Dr. Denman and others is conclusive in establishing the fact; all that I question, is the propriety of the practice in trusting to nature an operation which she is seldom able to accomplish. It would seem that the French and English accoucheurs run into the opposite extremes; the former being too officious, mechanical, and instrumental; the latter relying too much upon the powers and resources of nature. It has been considered as a rule, that so long as the pains continue vigorous, and the strength of the patient is but little impaired, we should refrain from resorting to instruments for the purpose of mutilating the child, or lessening the head; and that this practice should never be resorted to, till, by observing the declining strength of the woman, we find that nature is unable to accomplish the delivery; and some even go so far as to recommend, in preference to resorting to the perforator and crotchet, that we should wait for incipient putrefaction to occasion a collapse of the fœtus, and diminish the resistance on the part of the mother. But few, I believe, would be found to sanction and adopt a practice so doubtful and dangerous to human life. In relation to this subject, Dr. Denman makes the following observations:

"But when we are called to a patient with a prèternatural labor, in which there is little or no reason to hope for the preservation of the child, or in which we are assured of its death, or when the operation of turning cannot be performed without violence, and some danger to the mother, the knowledge of the probability of a spontaneous evolution will set our minds at ease, and disengage us from the consideration of making any hasty attempts to perform a hazardous operation, from which no possible good can be derived, except that of extracting a dead child, and which, at all events, might be effected by a method far more safe to the mother."

Now, this more safe method to which Dr. Denman alludes, is that of spontaneous evolution. He is here speaking of presentations of the superior extremities; and, in the situation previously mentioned, to say that this state of expectancy and inaction is safer than the attempt of turning and delivering by the feet is, to a limited degree, unquestionably true; because when the fœtus has been many hours impacted in the pelvis, and firmly embraced by what may be called the spasmodic contraction of the uterus, to turn and deliver by the feet is impossible, at least, without using such violence as to endanger the laceration of the uterus, and its separation from the vagina; or such other serious injury to the mother, as no man of prudence would presume to hazard. It unfortunately happens, in cases of this description, that this difficult and dangerous situation is generally produced by the mismanagement, ignorance, and imprudence of the too officious midwife, who, finding something wrong and difficult in the delivery, endeavors to overcome resistance by force. The result is that the fœtus becomes immovably wedged and impacted in the pelvis: being ignorant of the necessity of remedying a wrong presentation immediately on the breaking of the membranes, by turning and delivering by the feet, the favorable opportunity is lost, and the death of the child is almost the inevitable consequence.

I will conclude this article by subjoining two cases in illustration of the subject:

CASE I. On the 22d of October, 1828, I was called to a negro woman in labor, belonging to Col. Chas. L. Mathews, of this vicinity. I had been previously sent for, but being at some distance, on a visit to another patient, another physician was sent for. I found, on my arrival, the late much respected and amiable Thomas Lesley, M. D. in attendance; but no progress had been made in the delivery. The woman had now been a considerable time in labor under the care of an old negress. The membranes had been long bro-

ken, and the child was immovably wedged about midway of the pelvis. It was an arm and shoulder presentation. The right hand had protruded, and the shoulder, neck, and the orbit of the eye of the same side, were all that could be felt. To introduce the hand and reach the feet was impracticable; nor could the shoulder be moved in any direction. After laboring ineffectually for more than an hour, it was determined to reduce the head, as the only practicable mode of effecting the delivery of the woman. The scull was accordingly perforated just above the right orbit, the only part of the head that was accessible, and the brain discharged. The bones collapsing suffered the head to be brought down, and the woman was then delivered. Although much violence had been used by the midwife previously to my seeing her, the woman recovered without any untoward symptoms, except that the nymphiæ were considerably swollen and œdematous for a few days.

CASE II. On the 9th of April, 1829, I was requested to visit a black woman, about fifteen miles from this place, who was said to have been five days in labor. Several of the neighboring physicians had been applied to, but without success. A white woman midwife was in attendance. The woman herself was reduced to a state of great weakness and exhaustion; both the external and internal parts were excessively tender, from frequent and severe handling. The uterus was firmly contracted about the body of the child, which was dead and putrid; the gaseous evolutions of putrefaction escaping from time to time with a considerable crepitus. It was a left side and shoulder presentation; the hand and arm had protruded. No person, under these circumstances, would have thought of turning and extracting it by the feet. Without much difficulty I succeeded in separating the arm from the shoulder; but the body was still as immovably fixed as ever. The head was out of reach; I therefore perforated the upper part of the thorax, and fixing my hook upon the clavicle, broke and separated the fractured portion from the sternum; I next fixed the hook upon the first ribs, and, partly by twisting and partly by pulling, broke them, carefully removing the spiculæ as I proceeded. In this way I went on, till I had made a sufficient opening to enable me to extract the viscera of the thorax and abdomen. By this time the fœtus had descended into the lower part of the pelvis side foremost, so that having, at length, reduced it sufficiently in size, I was enabled to seize it and extract it with my fingers. The whole of this disagreeable operation took up rather more than an hour; and during the time, I

was frequently under the necessity of desisting, to allow my hands to recover from cramp and numbness produced by the firm contraction of the uterus about them. After giving directions for her treatment, which consisted in mild febrifuges, enemata, and warm fomentations to the abdomen, in case she should be afflicted with peritoneal inflammation, I left her with little expectation of her recovery. I afterwards, however, had the satisfaction to learn that she rapidly convalesced from the time of her delivery; and she now enjoys good health.

REVIEW.

ART. I. *Elements of Pathology and Practice of Physic.* By JOHN MACKINTOSH, M. D., Lecturer on the Practice of Physic in Edinburgh, &c. Vol. I., 8vo. pp. 484.

[Analysis continued from last volume, p. 346.]

ATTACHMENT to any exclusive theory, while it is productive of much indirect benefit to the cause of science, is, at the same time, attended by certain evils, which, in that of medicine, cannot be too much deprecated and avoided. It undoubtedly kindles a noble enthusiasm—awakens an untiring industry, and gathers up stores of knowledge, which might have else wasted on the desert air; but, on the other hand, it engenders too blind a credulity for whatever it can identify with its favorite doctrines, and an almost indiscriminate scepticism to every fact which threatens their stability, or varies with their predetermined proportions. Such have been its effects on every successive race of systematics, from Galen down to Broussais. Those who regard morbid anatomy as the only resting stone upon which the art of medicine can place her firm dependence, must necessarily overlook much that occurs before death, disregarding not only the natural order of symptoms, but also the effects of medicines. Thus, in puerperal fever, while Dr. Gooch, unwedded to any doctrine on the subject, frankly states the result of his experience with respect to bloodletting, and cautions his readers against too exclusive a reliance on this measure, Dr. Mackintosh, having inflammation only in his view, as developed after death, claims for it universal success, and attributes its failure to that worn out and convenient plea for all dogmatists, that it was not carried far enough.

Puerperal Peritonitis.—This subject will be so amply treated of in the next article, that it need not detain us long at

at present. We shall, therefore, rest contented with exhibiting the views of Dr. Mackintosh on the pathology of the disease.

"1st. The peritoneum is the tissue affected by inflammation in this disease, which extends itself without any preference throughout the whole extent of the membrane, without attacking one portion more than another, except that part of the peritoneum which forms the broad ligaments, in which place, it is probable, the disease first commences. Nevertheless the inflammation does not always appear to be general, being sometimes confined to particular spots.

"2d. The effused fluid found in the abdomen of women who have died of peritonitis, has nothing remarkable in it; it resembles the same matter found in peritonitis in men, and in the thorax of those who die of pleurisies. It varies in consistence and color in all these cases, but it is generally a white or reddish serous matter, containing flakes of albumen, more or less abundant, according to the intensity of the disease; it sometimes looks like pus.

"3d. The substance of the uterus has rarely been found diseased in any other degree than being sometimes large and flabby.

"4th. If a patient die in the first few days of peritonitis, we often find little vascularity, particularly if much blood has been drawn, although we are certain, from the previous symptoms, that inflammation had existed. If the patient survive longer, however, then we shall see the sero-purulent effusion. If the patient live still longer, the quantity of effusion is increased, and masses of coagulable lymph will be found glueing the intestines very slightly together. If the patient live still longer, the intestines will be matted together, and false membrane will be found covering the liver, spleen, and uterus, and the peritoneum itself will then be seen very vascular, and much thickened.

"5th. The pleura is also frequently found inflamed in this disease, as indicated by a similar sero-purulent effusion, and there is sometimes marks of inflammation and effusion in the brain.

"6th. This disease is more rapid in its course, and fatal in its termination, than ordinary peritonitis, from the peculiar condition in which a woman is left after parturition. In the first place, there has been an increasing determination of blood towards the uterine region during the previous nine months; in the second place, an increase of nervous irritability. So that the balance of the circulation is left at this period in a very unsettled state, which is readily upset upon the application of any of the usual causes; and when upset, the blood naturally takes it course towards the abdomen.

"These are at least some of the reasons for the venous congestion which takes place in many cases, in a greater or less degree, particularly in women who have been worn out by breeding, or who have been debilitated by previous disease, or insufficient food and clothing. In these cases, the heart and other vital organs are so much oppressed, that they cannot create reaction, or the system is too weak to do so. In one set of cases, speedy death takes place,

the patient sinking without any marks of local disease, unless it can be said to be indicated by vomiting and diarrhœa, with some confusion of intellect. In another set, although considerable congestion has taken place, it is not to such an extent as to destroy the patient; inflammation attacks the peritoneum under a suppressed reaction, and it goes on with a surface which is almost bloodless; therefore there is little or no heat of skin; the pulse is small and weak; the expression of the countenance ghastly; and the pain in the abdomen subacute. There are various shades and degrees of this complaint, according to the various combinations of these two conditions of the system.

"There are three other causes which enable us to account for the rapid march and fatal termination of puerperal peritonitis. The first which I shall mention is the occurrence of inflammation of that part of the peritoneum which covers the stomach, giving rise to those most violent symptoms which are described by authors under the title of gastritis. In a great majority of the fatal cases which have fallen under my notice, the peritoneum covering the stomach was highly inflamed; in several cases the whole stomach was in a softened state, and in all these cases there were most violent gastric symptoms. In the second place, inflammation of the peritoneum frequently takes place before delivery; sometimes as the original disease, and occasionally from the extension of inflammation and ulceration from the mucous membrane. The natural pains conceal the disease during parturition; afterwards the pain from inflammation is mistaken for after pains; and before alarm is taken, the patient is generally lost. I have seen many examples of this; and, since the publication of my Treatise, I have been able to anticipate what was to follow delivery, and have only lost one patient out of between twenty and thirty who had the disease. In the third place, something may be fairly attributed to the nature of the prevailing epidemic."

In his treatment of this alarming affection, Dr. M. depends, of course, almost exclusively on vascular depletion general and local. He admits that stimulants may be necessary at the same time—the combined use of these opposite classes of medicines being by no means inconsistent with good pathology.

Chronic Peritonitis.—Among the appearances on dissection we find enumerated partial fungosities, slightly elevated, extending in patches of irregular shapes, and of a red color, looking very much like a coagulated bloody effusion. Tubercles also are formed as the result of long continued inflammation. Dr. Mackintosh has seen them, in the peritoneum, lining the general cavity, covering the stomach, intestines, liver, and spleen; he has also seen them in the omentum, the mesentery and mesocolon. When the mesenteric glands are affected, a corresponding part of the

mucous membrane of the intestines will always be found inflamed, and sometimes lacerated. These tubercles in the peritoneum are generally subsequent to the formation of those in the lungs; sometimes they arise from chronic inflammation of that serous membrane, consequent upon external violence. They resemble the miliary eruption in some cases; in others they are hard and of various sizes, up to that of an orange, occasionally resembling coagulated masses of blood; at other times they have the character of medullary sarcoma.

Inflammation of the Mucous Membrane of the Stomach and Bowels.—No subject presents greater attractions to the medical student at the present day. To this source are referred, by some of the most distinguished teachers of our art, almost "all the ills which flesh is heir to." Even our most healthful sensations, the most refined and etherial operations of our intellect, love, ambition, avarice, joy, grief, all have their seat and centre in the epigastric region! —in the gastro-enteric mucous membrane!

To ascertain the precise condition of the mucous membrane in health, is of the greatest importance as a guide to the knowledge of its diseased alterations. It presents then a whitish appearance, with a slight tint of rose color, in the highest degree of health. Bloodvessels may be discerned at distant intervals, but they are not found ramifying in great numbers, nor do they present discolored patches "unless there has been some great impediment in the circulation, or they have been produced by a natural progress towards decay." Dr. M. does not hesitate to admit that many of the French pathologists have mistaken this kind of phenomenon for inflammation. And we are much mistaken if some post mortem examiners, in other countries besides France, have not likewise been deceived.

If the stomach of a person who has died from some disease, other than of this organ, be examined, it will be found slightly coated with mucus, not difficult to be removed. Two or three days after death, numerous rugæ will be formed, produced by the contraction of the muscular coat, while the mucous membrane is left free.

The splenic extremity of the stomach is that most liable to inflammation. In considering its diseased appearances, our author first considers the color. A change in color is not always owing to disease, but to post mortem changes; and Dr. M. cautions his readers against falling into the Broussaian error of confounding every change with inflammation. Dr. Yelloly's paper on the vascular appearances

in the stomach, frequently mistaken for the effects of inflammatory action, is referred to, and will repay attention. It may be found in the fourth volume of the London Medico-Chirurgical Transactions.

In some of the cases related by that physician, the whole intestinal canal was minutely injected with dark colored blood, in individuals who had been capitally punished. The circulation was very properly considered as having been carried on in the capillaries some time after death. The very appearance of the vessels, the exudation, and the structure of the mucous membranes must be our guides. The color may also depend on the infiltration of blood into the submucous tissue. A section of the part will show this. This infiltration may coexist with inflammation. In this case, the mucous membrane on dissection will be found affected, when in the former instance it will be healthy. The discolorations of this membrane are bright red, dark red bordering on purple, brown, slate colored, and black.

Vascularity. This may be arterial or venous. If the latter, large dark colored veins will be seen ramifying under the mucous membrane, and there will be few red vessels. If the former, red points will be observed, or numerous red vessels, and ecchymosed spots, and these not in depending portions of the organ, only. Wherever this circumstance is present, doubt may be entertained of the preexistence of inflammation, unless accompanied by exudation or alteration of structure. Vascularity must diminish very considerably after death, and particularly in recent inflammations.

Exudation. The tenacity, quantity, and color of this matter, require particular attention. When it is viscid, and considerable in quantity, upon a vascular surface, it is the product of inflammation. It varies in color from that of ordinary mucus to that of pus. Sometimes a red jellylike matter is discovered. The mucous membrane, when irritated, will yield a large quantity of thick tenacious mucus, of the color of starch. This was illustrated in experiments performed by our author, with the tartrate of antimony in large doses. The red jellylike exudation, is the result of very acute inflammation; that of a dark hue, darker than venous blood, more fluid than the last, and large in quantity, is the consequence of congestion.

Alteration of Structure. The mucous membrane may be pulpy and thick; the surface then looks granular and rough, and the membrance can easily be rubbed off. Abrasions are sometimes seen, but are more more often the result of chronic than of acute inflammation. Ulcerations may occur in

the glaudular structure, in the mucous follicles, or in the mucous membrane generally.

The inferior half of the ileum, is the part most frequently found inflamed and ulcerated; the colon stands next to the ileum, according to Dr. Mackintosh's observations, and the jejunum is seldom affected.

Sometimes numerous distinct points will be observed, as if a pen full of red ink had been spattered over the membrane; this is owing to exudation of blood from the follicles.

Ulcerations are observed of a circular or oval form, with defined margins, which have destroyed not only the mucous and submucous tissues, but also the muscular. Sometimes the mucous membrane is excavated to a considerable extent, and the peritoneum is thickened and inflamed, "the external surface being either covered with coagulable lymph, or looking like an excrescence of a dark red color." When the mucous membrane is ulcerated, the submucous and muscular coats sometimes become infiltrated with lymph, and a thickening of the rest of the intestine is produced. When ulceration attacks the muscular tissue first, an effusion of lymph takes place in the other cellular tissue, and then it is difficult to separate the peritoneum from the diseased membrane: or the ulceration may attack all the tissues, allowing the contents of the bowel to escape into the abdomen. The ulceration may occur in several places, and resemble carbuncle by its elevated edges and disposition to throw off a slough. The cellular tissue in the centre of these ulcerations is much thickened. The size and form of these ulcers vary; now small as a millet seed, then large as a shilling—now circular, then irregular and very extensive. Sometimes they have a red, sometimes a blanched, appearance. This last occurs where there has been great discharge by stool. The parts surrounding the ulcer, and advancing to the same condition, show marks of arborescent vascularity. Contractions of the whole tube are frequently produced by ulceration, when the whole mucous surface is affected. Its immediate cause is an effusion of lymph into the other coats. The mucous membrane is occasionally intensely red, and presenting, in one or two places, a seared appearance, as if it had been touched by a hot iron; it looks puckered, dark colored, and the neighboring part is slightly mottled, as if by white granulations.

An œdematous condition of the submucous tissue, is sometimes the result of acute action in the mucous. Air is also effused sometimes. Mortification presents itself under two forms: first, that observed in the stomach in cases of

fever, and in the last stage of phthisis, in which the mucous membrane is removed over a great extent of surface, which is left of a dark hue; secondly, that observed in the intestine, about the cœcum and ascending colon, in which the mucous membrane is lying loose, and in dark shreds, leaving a most offensive odor.

Inflammation of the mucous membrane about the colon and rectum, will terminate in a general thickening of the membrane, and also of those under it. The mucous surface is soft and spongy, abraded and discolored, here of a bright red, there of a dark mulberry color. No vascularity is perceptible, and infiltration of blood causes the discoloration. This appearance occurs in acute dysentery, and is apt to be mistaken for gangrene. The mucous tissue in the same portion of intestine is liable to hypertrophy. Ulcerations which haue healed, are distinguished by the cicatrices which remain. Tubercles also occur sometimes.

Under *Gastritis*, the only circumstance related which is worthy of note, is the occasional mildness of the symptoms, even when the disease is severe and fatal. In one case, occurring in a soldier of the 17th foot, who swallowed a drachm of the muriate of mercury, and died unexpectedly, eight or ten days afterwards, there was ability to walk even to the last, the patient walking to the close stool on which he died.

Mucous Enteritis.—The tongue is not a certain index of the condition of the mucous membrane. It may be clean and natural in color, or foul without redness, when dissection shall reveal the most extensive inflammation. It is, in general, red at the tip and round the edges, although loaded in the centre. Sometimes it is altogether red, and looks raw and perfectly smooth: when unusually red, it is deemed by Dr. Mackintosh a mark of very considerable irritation, inflamation, or ulceration. We are inclined to believe that it is most frequently attendant on that form of disease which constitutes chronic dysentery, attended with those puriform discharges, which evidently proceed from ulcers in the large intestines. It is by no means an irremediable affection.

Chronic Inflammation of the Mucous Membrane.—Dr. M. has had frequent opportunities of seeing old cases of this affection. They will often be found connected with some cutaneous eruption or with ulcers on the extremities. The patients will then be observed to enjoy best health when the eruptions are most severe, or the ulcers most troublesome, and attended with copious discharge. Our author here takes occasion to impress on the mind of the surgeon the necessity of alluding to medical pathology in the treatment of external

diseases, such as those referred to. They are not always accompanied by internal disorder, but if a person affected by them says he feels better in his general health when they are most troublesome; if his skin is harsh, his thirst great, appetite unimpaired, and there is nausea; if uneasiness is complained of in the abdomen, the bowels irregular, and discharges offensive—the tongue loaded or red at the tip and edges, or loaded and covered with elevated papillæ at the root, then there is little doubt, says our author, that the mucous membrane of the intestines is affected. We could add to this statement, that disorder of the liver or spleen would equally produce the same symptoms, and be attended with the same vicarious, or, to use a fashionable phrase, cutaneo-sympathetic, affection.

In treating of the bowel complaints of children, Dr. Mackintosh condemns the too prevalent habit of administering castor oil in sugar and water, almost immediately after their birth, for the purpose of bringing away the meconium. He has seen fatal affections produced by this cause. To our lot it has not fallen to see the like. Against drastic purgatives we should protest as severely as he. Some children are constitutionally more free, and others more bound, than usual. Provided they thrive, no remedy should be employed. When the stools are very much disordered, having a watery, bluish or greenish and frothy appearance, slimy, or like baked clay, and very fetid, as well as irregular, all irritating causes must be withdrawn, and a quarter or half a drop of laudanum be given in a tea spoonful of solution of manna. The yellow watery stool, and the brown watery stool, announce an excess, while the bluish and whitish indicate a diminished quantity of bile. In the management of these cases, our author follows the general routine. In case, however, feverish symptoms are severe, and the discharges are very mucous, tinged with blood, and expelled as if they came from a squirt, the child cries much, and emaciates rapidly, the disease should be treated as inflammation of the mucous membrane of the bowels. The appearances on dissection in fatal cases warrant this view, as that membrane is found highly inflamed, and often extensively ulcerated. A leech to the abdomen, stimulating embrocations to the same, a warm bath, &c., will be proper.

Tabes Mesenterica.—On dissection. inflammation of the peritoneum will often be discovered, with enlargement of the mesenteric glands; more frequently ulcerations of the mucous membrane will be found. The whole internal membrane of the colon is found ragged in some cases, the other

coats being much thickened. In other cases, the jejunum will betray marks of ulceration, and the ileum still more. The chronic peritonitis has been often traced by our author to the extension of ulceration from the other membranes.

Dysentery.—Few diseases require more cautious treatment, and absolute independence of all exclusive systems and theories, than dysentery; and yet few have been so often made the subject of abstract speculation! To this circumstance we are undoubtedly to impute the very frequent failures in its management. All those who have been conversant with it will be ready to acknowledge that, endued with a variety of forms, it is not to be reduced to any Procrustean method of treatment, but that it must be regarded as a disease accompanied, it is true, by irritation, inflammation, or ulcera- in the large intestines, but essentially different from these insulated affections, and differing in its essential character, like all idiopathic fevers, according to the epidemic character of the season, the individual causes which have induced it, and the situation and surrounding circumstances in which it occurs. No other view of dysentery can explain the alternate success and failure of the same methods of treatment, indiscriminately carried out to their full extent. Dr. Mackintosh, depending altogether on the morbid appearances disclosed after death, regards the disease as purely local, and of course his treatment is directed exclusively to one object.

His enumeration of symptoms in this severe affection is very full and graphic, and drawn evidently from personal observation, confirmed by extensive reading. He depicts the disease in its acute form, such as it is often encountered in tropical climates, running through its speedy course in a few days, and leaving awful traces of destruction behind it; and he also describes its milder and chronic forms also met with in the same regions, but more frequently, perhaps, in northern latitudes. Among the symptoms enumerated in the severe forms, is the throwing off of a large portion of the mucous membrane in a state of mortification. It is generally a fatal prognostic. Dr. M. has, however, seen a case of recovery after its occurrence.

The appearances on dissection we shall quote at large:

"*Appearances on Dissection, with Pathological Remarks.* In this country dysentery is rarely fatal, unless it attacks individuals who have suffered severely from the same complaint in India; nevertheless, my museum contains sufficient proof that it is more fatal than is generally supposed, and that examinations after death unfold the same appearances as seen in the mucous membrane in tropical climates. I have known several fatal cases in Edinburgh,

which ran their course in from nine to twenty days, and in which the whole of the colon, and part of the ileum, were in a state of complete mortification, the parts having the gangrenous fetor. In other instances, the colon, throughout its whole extent, was thickened and contracted; the mucous membrane being soft and spongy, and dark colored, looking more like a livid fungous excrescence, than an ulcerated surface; the color being retained even after maceration. An opinion has been too prevalent, that dysentery is always connected with a vitiated state of the bile, or actual disease of the liver itself; but the writings of modern pathologists have dispelled such erroneous notions."

Our author then proceeds to quote, from Dr. Marshall, the appearances in particular organs:

"*Omentum.* This organ is sometimes found greatly diminished; more frequently it is found much thickened, interspersed with numerous vessels turgid with dark colored blood, and easily torn. Sometimes it adheres with great firmness to the intestines, occasionally stopping up ulcers. Perhaps it adheres more frequently to the cæcum, than to any other portion of the intestinal tube.

"*Intestines.* The folds of the intestines are often found agglutinated together. Sometimes they adhere to the liver, and occasionally to the bladder. The colon appears studded or streaked with dark red or plum colored spots. Sometimes the contents of the intestinal tube are found in the cavity of the abdomen, having passed through a gangrenous orifice in the coats. When handled, the large intestines feel thick, heavy, and lumpy; they are likewise, in many instances, easily torn.

"Upon removing the intestines from the body, and slitting them up through the whole extent, a great number of lumbrici are commonly found; but as worms exist so generally in the intestines of Europeans in this country, their appearance cannot be considered as connected with dysentery. The inner surface of the duodenum is found covered with a viscid, glairy, semifluid substance, which has sometimes a yellowish, sometimes a greenish, color. Towards the inferior half of the ileum, small quantities of fecal matter are occasionally found, having a bright yellow color, and some degree of consistence. The contents of this intestine frequently resemble the healthy alvine evacuations of young children. The color and consistence of the fecal contents of the ileum are suddenly changed immediately upon passing into the cæcum. Nothing is ever found in the large intestines but a brownish offensive fluid, similar in appearance to the watery dejections which mark the last stage of dysentery. The intestines were never found to contain either scybalæ or fecal accumulation.

"The coats of the small intestines are generally healthy; sometimes they are redder externally than natural; this redness appears to originate from venous effusion, rather than from an actively excited state of the vascular system.

"The mesocolon is frequently found much thickened, and containing a great number of vessels gorged with blood.

"The chief traces of disease are found in the large intestines. The villous coat of the cæcum, colon, and rectum, when expanded, sometimes appears dark red, and extremely turgid; the turgescence is occasionally so great, as to resemble the tumid state of the inflamed conjunctiva during a violent degree of purulent ophthalmia.

"Sometimes the villous coat appears, at a little distance, to be covered with a blueish puriform fluid, and thickly interspersed with dark grumous spots and patches. When more narrowly examined, the villous coat is found to owe the appearance of being covered with puriform matter to an extravasation of fluids into the substance of it, by which means it acquires a swollen and pulpy appearance. The dark red grumous patches are portions of the villous coat in a gangrenous state. These spots are generally surrounded by a red circle, the areas of which are various; frequently they are not more than about a third of an inch. Sometimes an individual slough may be compared to a tainted oyster. The mortified portion of the villous coat that is situated within the red circle is easily removed from the muscular coat, which is commonly found apparently not changed from a state of health. In some instances, the central portion of the slough had disappeared, leaving an excavation in the villous coat, as if a portion of it had been cut out. Even in these cases, the muscular coat was commonly sound. The villous coat was generally unattached at the margin of the excavation, and the finger could often be easily pushed under it from one depression to another. Sometimes, however, the sloughing extended into the muscular coat, and even into the peritoneal coat, which was rendered evident externally by the mulberry colored patches. The dark spots on the peritoneal coat are always much less extensive than the corresponding gangrenous portions of the mucous membrane. While one part of the large intestines has lost its natural tenacity from gangrene, another has sometimes acquired an increased power of resistance, and when cut into, conveys a semicartilaginous feeling to the hand. Sometimes large portions of the villous coat are found sphacelated without any intervening living parts. In these instances, it is extensively separated from the muscular coat, and is sometimes found loose in the cavity of the intestine. The gangrenous shreds occasionally stretch across the diameter of the intestine, like a bowstring. The separated portions of the villous coat are torn by the slightest force. They resemble, in appearance, pieces of dirty lint imbued with the ichorous discharge of a gangrenous ulcer.

"Sometimes small collections of purulent matter are found between the villous and the muscular coats. This is, however, not a frequent occurrence.

"Occasionally dysentery leaves traces of disease in the large intestines of a different kind, namely, tubercular ulceration. Ulcers of this character are not unfrequently found spread over portions of the villous coat, and, for the most part, in a remarkably distinct

and uniform manner. That portion of the villous coat which intervenes between the ulcers has, in general, a loose pulpy appearance. Sometimes it is turgid and reddish. Viewed at a little distance, the inner surface of the intestine appears to be sprinkled with a soft curdy like substance. These cream colored specks are of various sizes; sometimes they are not more than a line, at other times they are an inch, in diameter. Upon examining a small speck, the whitish substance is found to protrude a little beyond the surface of the intestine, aud adhering, but not very firmly, to the villous coat. After removing this substance, a depression, or incipient ulceration is exposed. The base and margin of the indentation are generally dark red. The depression eventually increases, and becomes an ulcer, which is always encircled by a red portion of the villous coat. Sometimes the ulcers resemble the ill-conditioned sores, with prominent edges, which occasionally occur on the inside of the lips, particularly during a severe course of mercury. In general, the base and edges of the ulcers are indurated, unequal, and scabrous. When a section is made across them, a gristly feeling is communicated to the hand. The tubercular appearance of these ulcers is very remarkable. They sometimes resemble warty elevations, with excavated apices, in a state of ulceration. For the most part, ulcers of this kind are oblong: in length, they extend from half an inch to an inch; the breadth is seldom above half the length. The longest diameter is always in a transverse direction to the cavity of the intestines."

Disease of the liver is justly considered a casual, not an essential, feature of dysentery. It is, however, a frequent attendant.

Treatment. This is divided into that appropriate for the disease as it appears in Great Britain, and that proper in warm countries. In the first, fomentations are recommended, and castor oil with twenty, thirty, or forty drops of the sedative solution of opium; or, if the stomach is too irritable, calomel with opium, in small doses, to be repeated every second, third, or fourth hour, till a feculent evacuation is produced, assisted by injections of milk and water, or of thin gruel. Dr. M. considers it wrong to suppose that hardened feces are always lodged in the bowels in this disease; yet it is often, very often, the case at the commencement. Should febrile symptoms be present, bleeding is indicated, and leeches may be afterwards employed. After the irritation is subdued, large and full doses of opiates are to be given. Should the liver be diseased, small doses of calomel, or blue pill, will be proper. As external counterirritants, fomentations of hot spirits of turpentine will be found efficacious. If the disease is severe, Dr. M. recommends a blister. We should disapprove of this latter prescription, if ordered to

one of our patients laboring under dysentery, because we think it, in the first place, superfluous, as we can reach the disease by more direct means; and, secondly, as it would be excessively annoying to his already too irritated frame, by the pain it would occasion in his frequent motions to stool.

Strychnine, so highly recommended by Drs. Stokes and Graves, in doses of one twelfth of a grain, on the authority of Dr. Rummel, in Hufeland's Journal, has been tried by our author, and found "exceedingly beneficial, even in cases where there were most extensive ulceration in the bowels. It succeeded after every other remedy had failed." He also speaks favorably of the acetate of lead, given in two or three grain doses several times a day, and of the sulphate of copper, so strongly reecommended by Dr. Elliotson. For the flatulent distention of the bowels, which is frequently a troublesome symptom in dysentery, turpentine, assafœtida, or tobacco injections, are recommended.

Treatment in Warm Climates. As dysentery is more severe in the tropics, its management by the physician requires a proportionate increase of energy. Bleeding, general and local, is the first measure recommended by Dr. M., and great stress is of course laid upon its active employment. Mr. Annesley, in his work on the diseases of India, suggests a preference for leeches in shattered constitutions, as "they diminish action without destroying power." From this statement Dr. Mackintosh dissents *toto coelo*. He is certain, "by experiments and careful attention, that individuals will bear the loss of blood better, ounce for ounce, by general bleeding than by leeching." Without presuming to decide on so weighty a matter, we shall simply state it as our opinion that in many of these cases, detraction of blood had better be altogether avoided, unless the voice of experience is no longer to be listened to, and the dissecting room is to be our exclusive counsellor.

Dr. Mackintosh condemns the use of full doses of calomel as baneful, the proportion of deaths being very great under this practice, say twenty and even thirty per cent. As Dr. M. can or will see nothing but inflammation and ulceration of the intestines in this disease, it is not to be wondered at that he should denounce mercury as so far from curing the disease, that he knows no plan more likely to produce it. His only doubt is, whether calomel, or the long continued use of drastic purgatives, is the worst. What becomes then of the experience which has been, and is still, accumulating in favor of the scruple dose practice? Dr. M. does not object altogether to the use of calomel; he wishes to prevent an

exclusive reliance on it, and in confirmation of his views, he calls in the testimony of Cheyne, who practised in Dublin. This is scarcely treating the tropical physicians with fairness: but it will ever be thus with the followers of exclusive doctrines.

"Melius, pejus, prosit, obsit, nil vident nisi quod lubent."

Our own views of the treatment of dysentery, are simply these: During those seasons in which an inflammatory type prevails, or in plethoric and robust subjects, it will be always advisable to bleed largely at the onset of the disease, and to reduce the force of the circulation, which might else threaten local disorganization and gangrene. Leeches may also be applied with a very happy effect after the local disease is developed; but the main reliance of the physician must still, in all cases of dysentery, as of fever, be on those means which will divert the force of the disease from the internal organs, restore the lost balance in the great systems of the body, and substitute a new and healthful action, in lieu of the morbid processes going on, not only in the intestines, but throughout every part of the system. What this action is, it is impossible for us to explain. Certain it is, that the local inflammation does not altogether constitute it. It is often not developed for several days after the invasion of the general disease. Now calomel has been found, in an immense number of cases, to fulfil the above indications more speedily, safely, and effectually, than almost all other medicines combined. And shall we, then, refuse to employ it, through an hypothetical fear that it may prove an irritating application to the inflamed surfaces with which it may come in contact? Has calomel no other action than a local one on the mucous surfaces, and does it delay its alterative or deobstruent effects until it has reached the caput coli? We are not ignorant of the fact that other remedies will occasionally overcome dysentery—emetics, sudorifics, small doses of ipecacuanha, opiates, all have in their turn achieved this victory. But analyze the action of any one, or all of these, and it will be found to consist in restoring the locked up secretions, and relieving the vital organs of the undue accumulations with which they have been overburdened. Opium is perhaps an exception, as that medicine acts chiefly in allaying the excessive nervous irritation always present in this disease. It will, on that very account, seldom subdue the disease, if employed alone. While these effects will often be obtained from these medicines in sporadic and mild cases, they will more often disappoint the practitioner who trusts to their agency in

more severe and epidemic cases. In these, he wants the continued agency of all, and no medicine will produce so desirable effects as calomel.

Cholera.—We are somewhat surprized to find Dr. Mackintosh contesting the idea that cholera is a disease of inflammation. The following is his pathology, and it might, in our opinion, have been extended, with great propriety, to some other diseases already described.

"The first thing which occurs in viewing the disease itself, and the accounts which have been given, is the irregular determination of blood, which leaves the surface of the body quite pale. As in the cold stage of intermittent fever, many people have exhausted their ingenuity in abortive attempts to discover the cause of this phenomenon, instead of enquiring into the effects produced. The first point of enquiry ought to be directed to discover what has become of the vital fluid? This is most satisfactorily answered by the numerous dissections which have been recorded by different individuals. The balance between the arterial and venous systems is lost, and the blood becomes congested in the latter. In the majority of cases, the liver and mesenteric veins show most engorgement; but in some cases which occurred at Ceylon and other places, the venous system of the brain was congested, and the liver was quite free. Thus, Dr. Johnson informs us, that some of Mr. Finlayson's patients died after a few hours, without any signs indicating cholera, except diminution of strength, and the following marks were found on dissection. Much congestion of the brain, presenting layers, as it were, of black coagulated blood, or covered with general ecchymosis. In some cases, abundance of blood of the same color flowed both from an incision into the brain, and from the sheath of the spinal marrow.

"In some cases, the liver has been ruptured from the impetus of blood. Anrther circumstance worthy of remark, is the general absence of bile in the intestinal tube, as well as the suppression of urine. The general torpor which prevails, and which comes on so suddenly, may be fairly attributed to the congested state of all the vital organs. The spasms and cramps which take place, may be also partly attributed to the same cause. The state of the blood deserves also to be noticed; it is thick and very dark colored when drawn from a vein. Almost all writers notice this, even at an early period of the disease; and I beg particularly to refer to the valuable cases published in Mr. Annesley's work already quoted, and to his pathological observations at page 126.

"The dark and pitchy appearance of the blood, when drawn from a vein, is not peculiar to this disease: it is seen in the cold stage of intermittents: I have seen it in the cholera which prevails in this country; and it is also observed in many of the cases of fever which are called congestive. It shows, I imagine, that the lungs suffer very much from congestion, early in the attack. 'The lungs (says Mr. Annesley) were generally shrunk, collapsed, filled with

black blood, heavier than natural, and of a fleshy, hepatized, or bruised appearance.' In fact, all the functions of the body, in this disease, seem to be impeded or destroyed, except that of the mucous membrane of the stomach and bowels, which appears to be engaged in secreting and discharging an immense quantity of serous fluid; this must be regarded as one those efforts of the constitution which we see so frequently in operation to save life."

We shall pass over the treatment of this fearful malady in silence. We regret, however, to find the author, in his text, railing in personalities, at once undignified and very much out of taste, against a learned cotemporary, the very able editor of the Edinburgh Medical and Surgical Journal. On the merits of the point in dispute between the parties, we shall not touch, but we do think a system of medicine not the most appropriate depository of private feuds or momentary differences, which can have no possible interest for the profession at large.

Inflammation of the Muscular and Cellular Tissues.—Although these are not so apt to be inflamed acutely, they are often the seat of chronic inflammation. Dissection, in this case, displays the peritoneal and mucous coats unaffected, and the muscular, thickened, indurated, and contracted. The parts more frequently found in this state, are the point of union between the stomach and duodenum; that between the ileum and jejunum; the termination of the sigmoid flexure of the colon, or some part of the rectum; and lastly, the whole extent of the colon. Obstinate constipation is the most frequent symptom of this affection. It must not be confounded with scirrhus, in which there is disorganization as well as thickening, so that the different tissues are confounded. Meckel supposes, that scirrhous degeneration commences in the tissue which incloses the vessels and mucous glands, from whence it extends itself so as to involve the mucous and muscular coats, destroying their natural appearance, thickening and hardening them, and terminating at last in cancerous ulceration. The peritoneum generally escapes. In two preparations only has Dr. M. seen tubercles projecting from the serous coat, when scirrhus affected the other coats.

Omitting any notice of the chapter on the diseases of the liver and spleen, which does not contain any novelty, we come to the

Diseases of the Respiratory Organs.—In our first number, we directed the especial attention of our readers to the importance of acquiring an accurate and nice knowledge of auscultation, as the only safe guide in forming a diagnosis in

the study of thoracic diseases. Dr. Mackintosh is an able and zealous advocate of the employment of the stethoscope, and he devotes a very pertinently written chapter to a discussion of the very futile objections which have been advanced against it by the lazy and the ignorant. Among these objections, there is one we have often heard urged, and it is thus triumphantly met.

"They also state, that it is indelicate to examine the chest of a female with this instrument, under any circumstances; and that it frequently cannot be done, in consequence of the fatigue it occasions to the patient. With respect to the first, I have to observe, that it is an objection which I should only have expected from one individual in the British Empire, sir Anthony Carlisle. I feel convinced that every professional man of experience will join me in the following statement, that fewer objections are started by females possessing delicate and innocent feelings, to any kind of examination which their medical adviser may think it necessary to propose for their advantage, than by those who unfortunately are differently constituted. It is to be lamented, that this objection is brought forward more in the spirit of special pleading, than with a view either to benefit science or good morals. It may be maintained, however, with truth, that the examination may be made in such a manner, as not to occasion the slightest blush, as the patient need never be exposed, the different sounds of respiration being sufficiently heard for all useful purposes, through the texture of an ordinary nightgown. Instead of meeting with objections on the part of females, it has always occurred to me to observe not only a readiness, but an anxious desire, that the investigation of the nature and seat of any disease in the chest, should be carried out to the most complete elucidation. Cases no doubt occur, in which it is inconvenient and painful to move the patient much; but these are comparatively rare, and must be so far disregarded when life is at stake."

Affections of the liver are very apt to be mistaken for diseases of the lungs, and vice versa. Whenever there is reason to entertain the least doubt, (and to the ingenuous physician frequent occasions will occur to do so,) it must be of the greatest consequence to the patient that a correct diagnosis of his disease be formed. This can scarcely be done without recourse to auscultation. As proof that mistakes may often be made, the author furnishes us with the following fact.

"A physician treated a patient during some time, for a pulmonic complaint, without knowing its exact nature or seat, which he could not fail to have discovered, had he been able to use the stethoscope. After a little time, the patient complained of uneasiness in the abdomen, and the liver was felt rather prominent on the right side, but pressure did not aggravate the symptoms. It then came out, that

the man had been in India for several years, and as that was the case, it was supposed he could not fail to have drank plenty of arrack, and therefore to have contracted an affection of the liver. He was accordingly salivated over and over again, but the enlargement continued to increase; and it may be briefly stated that the man died. Upon dissection, his liver was found to be perfectly sound, and that the protrusion was occasioned by an effusion into the left side of the chest, which pressed down the diaphragm, and encroached upon the abdomen."

Pleurodynia, or a painful affection of the intercostal muscles, is often confounded, by routine practitioners, with inflammation of the pleura, &c. Dr. Mackintosh thinks the resemblance so great, that the former cannot be distinguished from the latter without the use of the stethoscope. The importance and certainty of the developments made by this invaluable instrument we do not deny, and we accordingly recommend it as indispensable in all cases: yet we do think that an attentive examination of *all* the symptoms present in any individual case, will generally indicate the true nature of such distinct affections, to a sagacious and accurate observer. The author himself coincides with us in this opinion, when he states, in a subsequent paragraph, that there may be much mischief done by those who attempt too much by the stethoscope exclusively. "It is a great assistance, as an additional means of diagnosis," but after all, its advantages, however great, are rather negative than positive. We fully agree with Dr. M., on the other hand, that symptomatology alone should not be relied on, in the present improved state of medical science.

"Some medical men allege, that they can discover every condition of the lungs, quite well enough for all purposes, by the ordinary symptoms; therefore I shall now take a view of these symptoms, for the purpose of showing the fallacy of this statement. The following symptoms are supposed to denote inflammation of the lungs, in the most satisfactory manner: Cough, dyspnœa, pain, quick and strong pulse, being softer, however, when the substance of the lungs is inflamed, than other parts. When these symptoms exist, they are supposed to be peculiar to inflammation of the lungs, that is to say, when they exist, inflammation is present; and when they do not exist, the disease is absent. Experience enables me to state, that not one of these symptoms, nor all taken together, positively indicate inflammation of the lungs in any of its textures, and that inflammation may exist without any of them being well marked; hence it is, that symptomatical physicians are so often astounded with the appearances on dissection, which they did not anticipate from the mildness of the symptoms; and hence it is, they too often decry the usefulness of morbid anatomy.

"Cough is not peculiar to disease of the lungs; it may be produced in a violent degree by any kind of irritation about the larynx, epiglottis, and even the pharynx; mere excitement of the circulation, frequently produces cough, as well as diseases of the heart. I shall afterwards prove, that in some of the most hopeless cases of inflammation of the lungs, the patient *cannot* cough, in consequence of which the danger is greatly increased; therefore cough cannot be said to be peculiar to inflammation of the lungs.

"Dyspnœa is as frequent a consequence of disease of the heart, as of the lungs; mere excitement in the circulation will produce both cough and dyspnœa. One of the most distressing cases of dyspnœa which I have ever had the misfortune to witness, dissection proved to depend on an enlargement of the gland, which fills up the angular space at the bifurcation of the bronchial tubes. From a mechanical cause, also, œdema of the inferior aperture of the glottis frequently produces a fatal dyspnœa. In many cases of extensive and severe inflammation of the bronchi, after free expectoration, the dyspnœa subsides so completely, that should a symptomatical physician happen to make his visit at that period, he will pronounce the patient to be convalescent, when perhaps, within an hour or two, he will be no more. Even in pneumonia, if the inflammation is confined to a small part of one lobe, which it frequently is, there is little dyspnœa, and the whole of one lung may be destroyed by chronic inflammation, without occasioning much difficulty of breathing, if the disease goes on very slowly.

"With respect to pain, nothing is more deceptive, for there may be severe pain in the chest without inflammation, as has been already stated in the affection denominated pleurodinia. In bronchitis, there is little or no pain; in pneumonia, the pain is generally little marked; and, contrary to the statement made in all systematic works, respecting the severe pain in pleuritis, experience enables me to state, that it may go on most extensively, even to a fatal termination, without much complaint; hence we often see, on dissection, most extensive adhesions, of long standing, between the *pleura pulmonalis* and *costalis*, in individuals who had never been remembered to have experienced any very serious indisposition till their last illness.

"It has already been shown, that a hot skin is not an invariable phenomenon in inflammation, and the same remark may now be made with respect to inflammation of the lungs; indeed, in bronchitis, the heat of the skin is frequently below par.

"It has also been already shown, that the pulse cannot be depended upon as a certain indication of inflammation; and, in addition to the remarks already made in this work, I may now state, that hypertrophy of the left side of the heart frequently produces a strong bounding pulse, and also dyspnœa, when there is no inflammation going on in any organ of the body; and, on the other hand, dilatation of the left ventricle will produce a weak, soft pulse, at a time, perhaps, when every form of pneumonic inflammation is going on most rapidly."

Bronchitis.—The chapter on this interesting affection is full of important information, but it will not admit of condensation. We cannot deny ourselves the satisfaction, however, of quoting the following paragraph, of which the direct bearing and utility will be sufficiently obvious:

"In making *post mortem* examinations, with a view of discovering the nature and seat of bronchitis, these accidental morbid alterations of structure should be kept in mind, along with the symptoms and progress of the case; because, although they may form the most prominent appearances on dissection, and are no doubt in many instances the cause of death, yet they are only to be regarded as the effects of the original disease. Nay, sometimes an individual laboring under acute or chronic bronchitis, may have expectorated freely, immediately before death, either during the act of coughing or vomiting, when we shall find little or no effusion in the bronchial tubes, and sometimes very little redness. It is proper also to state, that notwithstanding the attention which has been paid of late years to the pathology of the lungs, there is still a great deal of ambiguity connected with this subject, arising out of the knowledge of the fact, that dividing the pneumogastric nerves in animals, produces dyspnœa, change of voice, and effusion into the air passages.

"Of all the symptoms, wheezing is the one which may be said to be peculiar to bronchitis; cough and dyspnœa, it has already been shown, are common to all diseased conditions of the lungs, and not only of the lungs, but of other organs. Some assert that it is owing to spasms, but this not the case, for we find that it is greatest before expectoration takes place, the patient afterwards being pretty free from it, till a fresh secretion collects in the air passages. The dyspnœa has also by some been attributed to spasm. Reisseissen thinks he has ascertained the existence of circular fibres in the ramifications of the bronchii, commencing at the point where the cartilaginous circles terminate. Laennec supposes that he has himself also proved the existence of these fibres upon branches of the bronchii, of less than a line in diameter; and, therefore, concludes that spasmodic contraction of these fibres occasionally produces dyspnœa. I am far from admitting this structure in the present state of our knowledge; but, even if it were so, it is of little consequence, when there is an increased quantity of mucus in the tubes themselves, offering a sufficient mechanical cause for the phenomenon itself, and for the exacerbations and remissions, which are so frequently observed in all the forms of bronchitis. Whatever consequence may be attributed to such a structure, in accounting for the symptoms in some cases of asthma, it is of little practical importance in acute or chronic bronchial inflammation."

In describing the treatment, Dr. Mackintosh particularly insists on the caution to be observed, in carrying bleeding and debilitating measures to too great an extent, after mucus has collected in considerable quantity, and in double

bronchitis, more especially, where death may ensue from depriving the system of the due strength, requisite to produce expulsion of the matter by coughing.

In children, Dr. M. thinks it far better to draw blood from a vein, than by leeches; and this opinion he founds on the result of considerable experience.

"Purgatives," he observes, "were, at one time, thought highly injurious in all inflammatory affections of the lungs, but upon erroneous pathological views." Several years ago we advocated the propriety of their use, with certain restrictions to be observed after expectoration was unavoidably established. This very process may, however, be dispensed with, and altogether prevented, by their timely administration.

Opiates are, in general, condemned by our author. He admits, however, that they may be sometimes useful in the *first* stage, after the disease has been got under by the lancet, when they subdue irritation, the continuance of which would lead to a relapse. This is Armstrong's view, and a very correct and practical one.

Laryngitis.—Our author's chapter on this interesting affection is rather jejune. The description of it by the former principal editor of this Journal, in the fourth volume of the old series, contains the most complete and practical information extant, with respect to its symptoms and treatment.

Chronic Inflammation of the Trachea.—Under this head, we find the following interesting case:

"Edward Currie, æt. 40, a laborer, up to the period of the great fires in Edinburgh, which took place in November, 1824, had always been a healthy, stout man. During his attendance in working the engines, and in carrying water, he was exposed to cold and wet, and was subsequently affected with what he called a severe cold and sore throat, attended by occasional headaches; but having a large family, and being of industrious habits, he continued to work at his daily labor. On the 2d of January following, he became worse, and was unable to go out, but sat at the fireside almost the whole of the day, complaining of chilliness, sore throat, and tightness about his chest. After passing a bad night, he sent to my dispensary for assistance on Monday. At five o'clock in the evening, he had severe rigors with difficulty of breathing, and at half past six, was visited by one of my pupils, Mr. Marshall, whose name is associated with many interesting cases, and from whom I received the following report: 'On seeing him, I believed he had caught a cold; he complained of sore throat, and evinced some uneasiness in swallowing, but there was no appearance of inflammation of the fauces, nor pain on pressing the windpipe. The rigors were still severe, the pulse strong, beating about 70 in the minute, and there

was a sense of constriction in the chest. He was bled to the amount of eighteen ounces, during which the rigors ceased, but afterwards returned.'

"Mr. Marshall thought his patient was in no danger, and that the symptoms would soon give way to the remedies he had prescribed; but, in about an hour after he took his leave, the dyspnœa became much worse, attended with severe rigors. Mr. Davidson, a respectable surgeon in the neighborhood, was immediately sent for, who found the man in such a dangerous state, that he wished me to be present before any step was taken; but soon the symptoms became so much more urgent, that he could no longer wait, and he opened a vein in the arm; the blood was flowing on my arrival. About eighteen ounces were abstracted with very little or no relief: although a large orifice was made, the blood did not flow in a stream, and it was very dark colored and thick. It coagulated very imperfectly, yielded no serum, and had every appearance of what is commonly called 'dissolved putrid blood.' The state of the respiration sometimes resembled that which is heard in croup, after the formation of the false membrane; at others, that of hooping cough, during the paroxysm; indeed, the similarity was so great, that I heard a number of women discussing the point. It was ascertained that he experienced the greatest difficulty in breathing during the act of *inspiration*, when he made the shrill crowing noise. There was cough. He spoke distinctly after the bleeding, which he could not do before, but it was in a low voice, and seemed to cost him a considerable effort; he said, 'I feel rather better.' His face was pale and anxious, and I was told that it had been so for several hours; pulse rapid and feeble. Upon being subsequently asked if he had any pain, and where it was situated, he replied by placing his hand upon the thorax, and nodding. During the momentary absence of Mr. Davidson and myself, in an adjoining apartment, the patient felt a desire to make water, and actually got out of bed unassisted, and lifted the chamber pot. Upon our return, he was cautioned to lie down, and on no account to make such an exertion again; but he persisted, declaring he felt somewhat better, and in a moment afterwards he was dead.

"The body was opened thirty-six hours after death. The following were the appearances observed: Right lung attached throughout its whole extent, by old adhesions, to the pleura costalis, left lung free. The lungs and trachea were then carefully dissected out, including the root of the tongue, and minutely examined. The lungs themselves were of a very dark color, heavy, and congested everywhere with dark colored blood; and although there was no hepatization, yet two thirds of these organs, when separated into small pieces, sank in water, a little below the surface; this was proved not to depend on alteration of structure, for, by washing, they were restored to their natural color and buoyancy. The mucous membrane, everywhere in the larynx, trachea, and bronchial tubes, was of a dark red color, and coated with reddish mucus; but the bronchial tubes were not gorged with it, as seen in the lungs of those who die of bronchitis; the larynx was found so much os-

sified that, after slitting it open, it could not be separated to any extent; the mucous membrane, at this part, was found so much swollen, as to leave the smallest possible passage for the transmission of air at the superior, but particularly the inferior, aperture; the epiglottis was also much swollen, erect and stiff, and of a red color."

We record this case to show the negligence with which symptoms are too often described; yet those which are detailed show us convincingly that the affection of the larynx was the prominent cause of death. Hence the difficult deglutition, the peculiar respiration and cough, the shrill crowing noise, the low voice, difficult articulation, and the sudden death.

Hooping Cough.—Dr. Mackintosh believes that there is something peculiar in this disease, and that the nervous system is very seriously involved; but the doctrine of spasm, he thinks, should be cautiously received in the present state of our ignorance of the structure and functions of that system. "The essence of the disease," he says, "consists in irritation and inflammation of the mucous membranes of the body, but more particularly of the air passages." How does it then differ from catarrh, or rather influenza? It commences like catarrh, it is true, but, after the first stage, it assumes a character altogether peculiar to itself. Of this the author is fully aware; but he will not agree to discuss the question, whether it is owing to a peculiar affection of the nervous system, for the reason just stated, of our ignorance of neurology. A congestion is *somehow* produced in the lungs; hence arise the dyspnœa, cough, and the reaction, more or less violent, of the whole system, by which the determination to the lungs is diverted to the skin. Although Dr. M. does not satisfactorily explain all the known facts in relation to this singular disease, it is gratifying to find a writer of so much talent and observation not following the mass, of whom a part confound it with bronchitis, another with cephalitis, and a third with both combined! The great secret is to regard this affection as simple and distinct in itself, but very liable, from obvious and numerous coincidences, to be complicated with the several diseases, which have all, in turn, been supposed to constitute its essence. This is the only view which can lead to a discriminate and rational methodus medendi in hooping cough. But of this elsewhere.

Pneumonia.—In the treatment of inflammation of the lungs, while Dr. M. urges the indispensable use of the lancet, he also cautions against the latter; and believes that

more mischief may be done by too little, than too much, bleeding.

"I have the history of a case before me, in which one hundred and ninety-two ounces were taken from one individual; but I am persuaded that, if he had lost two thirds less, it would have been better for him. Several months afterwards he was weak and miserable, and it appeared very doubtful whether he was ever to regain his health. On one occasion, early in life, I very nearly lost a patient, from whom I had taken, at different times, in the course of four days, one hundred and twenty ounces of blood, but who recovered after the exhibition of stimulants; and I have seen several cases, within the last ten years, to which I have been called in, where considerable injury had been inflicted by very large bleedings, the medical attendants having allowed themselves to be misdirected by the continuance of dyspnœa, which increased after each abstraction of blood. It was evident that this was owing to a want of sufficient blood in the system. In one instance, the patient was on the very brink of the grave, with a pale sunk countenance, and cold extremities: the strongest stimulants were administered, along with opiates. All these cases eventually recovered."

The chapters on pleurisy, hæmoptysis, and phthisis are full, but are acknowledged compilations from Laennec and the latest French authors.

Asthma.—In the chapter on this affection, we find the following opinion of its nature:

"There cannot be a doubt, but that the nervous system has a powerful influence on the functions of the lungs, when laboring under disease, as well as in health; and I imagine no one can deny that asthma may be produced either in consequence of some diseased action in the brain, or in the nerves themselves which supply the lungs. It has been attempted to be shown, by Reisseissen and Laennec, that the bronchial tubes possess a muscular structure, through the agency of which the air vessels contract, when under the influence of spasm; but neither is this a new idea on the part of Reisseissen nor Laennec, for Cullen makes the following statement: 'From the whole of the history of asthma now delivered, I think it will readily appear, that the proximate cause of this disease is a preternatural, and in some measure a spasmodic, constriction of the muscular fibers of the bronchiæ, which not only prevents the dilatation of the bronchiæ necessary to a free and full inspiration, but gives also a rigidity which prevents a full and free expiration.' (Par. 1384.) But neither is this an original idea of Cullen's, for it was entertained long before his time, by Hoffman and Willis. It is foreign to the object of this work, to enter into anatomical controversy, and unnecessary in this instance, for even Laennec states that he had 'met with only a very small number of asthmatics, in whom there was evidence of pulmonary spasm, without any attendant catarrhal affection; but some few I have met with. On the

other hand, I have known a great number of patients, in whom the catarrh, whether dry, pituitous, or mucous, was too slight in degree, or too small in extent, to be considered as the real cause of this asthma.' (Page 412.) Because, perhaps, there might be in these cases some organic lesion of the heart and large vessels, or the coexistence of cerebral irritation. These observations lead me to remark, that there is almost always something more in this disease than the original organic lesion in the lungs themselves; this, experience has frequently led me to trace to sudden congestion of the lungs which flattens the air vessels, and prevents them from dilating."

Diseases of the Circulating System.—After some valuable introductory remarks on the importance and advantages of studying the diseases of the heart, which have been too often deemed irremediable, and on the employment of the stethoscope, our author takes up the consideration of the individual diseases of the vascular system.

From the chapter on angina pectoris, we select the following pathological remarks:

"The great error which subsequent writers have committed, is attributing angina pectoris to one particular disorganization; thus, one has attributed it to ossification of the cartilaginous extremities of the ribs; a second, to ossification of the valves of the heart; a third, to fat accumulated about the heart; a fourth, to dilatation and hypertrophy of the heart. Dr. Parry supposed that it depended on ossification of the coronary arteries; Dr. Haygarth, on inflammation of the mediastinum; Dr. Hooper, on diseases of the pericardium; and there are many who think it is produced by asthma, who, upon the confined principles adopted by symptomatical pathologists, convert a symptom into a disease, and who are constantly seen to confound cause and effect. Dr. Hosack, an American physician, is of opinion that it most frequently arises from general plethora, more particularly 'from a disproportionate accumulation of blood in the heart and large vessels.' I have to state, that I have seen all these morbid appearances on dissection, in subjects who were never affected with angina pectoris; and it has been alleged, and I believe truly, that patients have died suddenly from this affection, in whose bodies not the slightest trace of disease of any kind was perceptible, which has led some to assert that it depends upon scrofula, syphilis, a nervous temperament, or a peculiar affection of the *par vagum*. Dr. Parry's opinion, however, seems still to have great weight with some in the profession; but it may be mentioned, that I have seen two cases in which the coronary arteries were extensively ossified, and a third, in which they were completely so; and yet none of the patients had symptoms of this disease. A remarkable case of the same kind, which happened many years ago, is detailed in the first volume of the 'Medical Communications,' by Mr. Watson. In justice, however, to the memory of Dr. Parry, it ought to be stated, that he did not attribute the disease

entirely to the effects of ossification of the coronary arteries, for he distinctly states, that the symptoms show that an accumulation of blood about the heart and large vessels takes place. This statement goes so far to confirm the opinion of Dr. Hosack, which, Dr. Forbes assures us, is more in accordance with his own observation, than any of the other opinions; but he adds, (at page 692 of his Translation,) that 'in persons subject to this complaint, in whom no severe organic disease of the heart existed, I have generally found, by auscultation, that the organ was possessed of thin parietes and feeble powers.' In my work on 'Puerperal Fever,' which was published in the year 1822, a case of angina pectoris is recorded, (at page 83,) which was evidently produced by a congested state of the heart and large vessels near it. The life of the individual appears to have been saved by timely bloodletting; upwards of six years have now elapsed, and there has been no tendency to a return of the disease, which may be attributed to attention to the bowels, and a proper regimen."

Dilatation of the Heart.—The following most interesting case of this severe affection will conclude our extracts from the work of Dr. Mackintosh:

"J. M., aged 29, a medical student, very tall, stooping in his gait, of a fair complexion and light hair, had been affected, for about a year, with symptoms which he attributed to disorder of the stomach. He complained of a feeling of distension and weight in the epigastrium. Occasionally, he was troubled with a short dry cough, and palpitation of the heart, excited generally by any sudden or unusual exertion. The pulse was naturally slow and full.

"These symptoms gradually became more constant and troublesome. In July and August, 1823, he had occasion to exert himself considerably in his professional pursuits, and the feeling of uneasiness in the epigastrium, and palpitation at the heart, proportionally increased; but appeared to him to be constantly relieved, when his bowels, which were generally costive, became relaxed by the use of medicine.

"In September, his complaints were much aggravated; towards evening, the short tickling cough became exceedingly troublesome, and, when he placed himself in the recumbent posture, he was frequently seized with feelings of suffocation, which forced him to sit up. The difficulty of breathing, accompaned by a sensation of constriction in the breast, was, at times, considerable; and the paroxysms which seized him during the night, he compared to asthmatic fits. He was frequently obliged to rise during the night; and, when he did sleep, was often suddenly awakened by the sense of suffocation. Towards morning, he became easier, and enjoyed some rest. During the day, he was comparatively well. He was thin and pale, but complained little, except of want of rest. He went about his medical studies with ardor and assiduity; but, on making any unusual exertion, he was immediately seized with the short cough, and, on mounting a flight of steps, or an ascent of

any kind, he was often obliged to stop suddenly. On walking quick, his strength failed, and he complained that his limbs refused to perform their office. On examining the pulsation of the heart, at this period, it appeared to be placed immediately under the hand; instead of the usual quick and hard stroke, a prolonged pulsatory throb was distinguishable, extending over a larger than usual surface. To the stethoscope, both the left auricle and ventricle gave a clear sharp sound, distinctly observable, also, under the clavicle of the right side.

"In October and November, he became gradually worse. The paroxysms at night were more frequent, and more troublesome; and he was generally obliged to sleep in the sitting posture. He sometimes, however, passed days and nights pretty comfortably, and he believed that this was principally the case when his bowels were freely opened.

"In December, the oppression and sense of fulness in the epigastrium increased to so great a degree, as to render the slightest pressure on the part insufferable. The veins of the neck were observed, at this time, to be full, and a strong pulsatory motion was given to them above the calvicle. He still continued his studies with ardor, and refused to confine himself; but on mounting stairs, or walking quicker than usual, he became completely exhausted, and was often obliged to rest himself. On the 12th December, he felt himself much worse, and weaker. On the 14th, a material change for the worse had taken place; his face was pale and anxious, the lips bluish, and the ancles œdematous; still he conversed cheerfully, and without the least alarm. The pulse was small, and about 120. On applying the hand to the region of the heart, the usual quick, hard beat was not to be felt; but there was a kind of violent pulsatory struggle perceptible over a considerable space. A physician saw him, and the medicines he recommended were employed with great apparent benefit. Mr. M. thought himself better; the œdema of the legs disappeared, and the cough became less troublesome; the palpitation at the heart had subsided; and he complained only of the sense of weight in the epigastrium. During the day, he was tolerably well, but about ten at night, he became hot and exceedingly restless, continually shifting his posture, in the vain hope of repose. This continued for some hours, when he generally sunk into a slumber, and continued till morning bathed in a copious perspiration. On Friday, 26th, he was much worse. At 4 P. M. he was sitting up and conversing cheerfully; but his legs were more swollen; his pluse irregular; the pulsations of the heart could not be felt in the usual place, and an undulatory pulsatory feel was communicated to the hand, when placed on the epigastrium. About 8 o'clock, his breathing became oppressed, he sunk into slumber, and died without a struggle.

"The body was examined about sixty hours after death. A great quantity of bloody serum seemed to have escaped, and still continued to flow from the mouth and nostrils. The body was much swollen, and the cellular membrane was distended with air; a quantity of serum flowed out on making the several incisions.

About a pound and a half of bloody serum was found in each cavity of the thorax. The pericardium contained about three ounces of fluid. The heart was more than three times its usual size. It was of a deep brown color, and destitute of fat. On examination, the right auricle was greatly increased in capacity, and extremely thin in its walls. The *foramen ovale* was sufficiently open to admit the point of the little finger into the left auricle. The right ventricle was nearly natural, as was also the left auricle. The left ventricle was of an enormous magnitude, and more resembled a large bag than a ventricle of the heart. It was more than three times its natural size, its walls of extreme thinness, and the fleshy columns widely separated from each other. The lungs were more than usually congested with blood; but they, as well as the viscera of the abdomen, were perfectly healthy.

"The above case is interesting in many respects, and among others, in having the *foramen ovale* open, which was, in all probability, produced by the enormous dilatation of the right auricle; it is worthy of remark, that the communication between the right and left auricle existed without producing the disease termed cyanosis or blue skin."

We have been more than usually liberal in the extracts from this volume, because we were desirous to present the most interesting features of it to the consideration of our brethren. Its analysis has been much curtailed by the general and systematic character of most of the chapters, which necessarily embody much information already known to the profession. Whatever was peculiar or novel, has been carefully transferred to our pages.

We now take leave of Dr. Mackintosh, and it is with sentiments of respect for his talents, his knowledge, and his industry. We have freely expressed our dissent from some of his views, and our disapprobation of certain passages of his work; but to its general merit we are willing to bear our cheerful testimony. It neither deserves, nor will obtain, the standard reputation of the First Lines, or of the Study of Medicine; but it will be found a useful manual for the pathological student.

ART. II. *An Account of some of the most Important Diseases peculiar to Women.* By ROBERT GOOCH, M. D. London, 1829. 8vo. pp. 432.

FEMALES may be emphatically pronounced to be the arbiters of a physician's fate. According as the opinion which they form of his general abilities and character is favorable or the contrary, and the confidence which they repose in his

practical skill and experience is greater or less, will the result of his career be prosperous or untoward. They are, in fact, best qualified, both by nature and opportunity, to judge of his fitness or unfitness for the active discharge of the duties of his profession. Their perception of character is, in general, nice and acute; their intercourse with him is necessarily most frequent and constant: they can, therefore, best ascertain his possession of those qualities, which are especially requisite at the bedside of the sick, viz. readiness and general accuracy of knowledge, promptness in the application of resources, and tenderness joined to decision and firmness of conduct. Ignorance and audacity, assuming the insidious and bland disposition of the serpent, will sometimes impose upon the unwary; and quacks and pretenders do undoubtedly attain to extensive business, under the patronage of the fair sex, whom they win over by the graces of their person, or the persuasive softness of their address. But these are exceptions to a general rule, and rather tend to prove the influence which even silly females exercise over the destinies of physicians, and the importance of acquiring a pleasing behavior, than the triumph of ignorance over skill and knowledge. These latter, accompanied with the same external advantages, always exercise the most unlimited sway; and, when brought to the test in the hour of danger and of difficulty, drive before them all shallow pretensions and jackdaw exhibitions. If it is important, then, for the physician to win the favor of females by a pleasing and decorous deportment, it is still more so to secure and maintain that favor by the exhibition of the more solid qualifications already enumerated, and, more immediately, by exhibiting a knowledge of those diseases which are peculiar to their sex. No situation can be more trying to a female, than when she finds herself in doubt respecting the ability of her medical attendant to carry her safely through the unknown and severe sufferings she is so frequently destined to experience. Confidence in him leaves to her a composure and calmness, which endow her at once with courage and strength to encounter danger and resist pain. To secure this confidence is therefore the first duty of the humane and judicious physician. This can only be effected, by great assiduity and attention to the sick, and by constant perusal and study of the most experienced and able writers.

Among writers on female diseases the author before us stands entitled to an eminent distinction, both by the soundness of his views, the modest caution with which he advances his opinions, and the extent and value of his experience. As

a writer, too, he enjoys an enviable reputation, which has been richly merited by the simplicity and perspicuity of his style, and the spirit of philosophy and love of letters which breathe through all his writings.

In a preface, written with uncommon vigor and simplicity, Dr. Gooch states the opportunities he has enjoyed for observing the diseases of which he treats, but he does it not with a tone of idle exultation, but with the laudable view to persuade those who come after him to turn their advantages to a good account. We are tempted here to make an extract, by the desire which we deeply cherish, of seeing the younger members of our profession, who may be appointed to public situations in the hospitals, dispensaries, and other infirmaries, follow the counsel and example of our excellent author.

"If I knew a young man placed in such a station, in whose eminence, founded on his professional utility, I felt interest, I would say to him, remember that your station is one that can be enjoyed only by a very few; do not consider it as one of lucrative conspicuousness, but as a trust which Providence has confided to you, and which you will neglect unless you do your utmost to improve your branch of medicine. He who has the care of a lying-in hospital, is a lecturer on midwifery, and is resorted to by the public as an obstetrical physician, has opportunities of acquiring knowledge in, and extending the bounds of, obstetric medicine, which no other physician, surgeon, or general practitioner can possess, whatever may be his talents: your task will go on prosperously, the sooner you have ceased to read, and begun to observe and think; do not, however, attempt to dispense with reading, but dispatch it as speedily as is consistent with accuracy. Keep a note book, read the most esteemed original writers on the most important subjects of your art, and while reading them, note down briefly those points which you wish to remember, so as to have no occasion ever to look into the book again: provided you get the points of the work, the more briefly you do it the better; if you are skilful at this, you will find that a page will hold a pamphlet; and that twenty pages will often hold a bulky volume; if you read German, read Richter's Bibliothek Chirurgische, for he is the greatest master of the art of condensed analysis. Thus your manuscript volume will become a Bibliotheca of your branch of medicine, and you will never afterwards have occasion to consult the books themselves. There are some writers whom it would be wrong to abandon thus; masterminds, whom we return to again and again, not merely for the knowledge which they contain, but to observe how their minds worked; and the older we grow, the fonder we become of them; such, in England, are Harvey on Physiology, and Sydenham on Medicine, but few such minds appear in any branch of knowledge; and with most of them, when you have squeezed out the juice, you may safely throw away the rind. Having thus made yourself acquainted with what was known by the most experienced writers on the most

important subjects of your art, your are prepared to undertake the more difficult task of observing and reflecting for yourself: watch cases attentively, and take notes of their important particulars; not of every case, but only of the most important; and not lengthy notes, containing a diffuse description of unimportant trifles, which, from the time which they occupy, will soon cease to be written, and if written, are sure never to be read; but a short description of the leading circumstances, with an equally short mention of the reflections which they suggest. Make yourself perfect in the art of examining dead bodies; accustom your hand to open them, and your eye to detect with accuracy morbid appearances."

The subjects of which Dr. Gooch treats, are as follows:

Chapter I. The peritoneal fever of lying-in women.

Chapter II. The disorders of the mind in lying-in women, together with thoughts on insanity, as an object of moral science.

Chapter III. The mode of distinguishing pregnancy from the diseases which resemble it.

Chapter IV. Polypus of the uterus.

Chapter V. Of the irritable uterus.

Chapter VI. Of some symptoms in children, erroneously attributed to congestion of the brain.

There is also an appendix, in which the author considers the question whether the plague is a contagious disease. The apology he offers for introducing this irrelevant subject, is the probability of his not issuing any publication hereafter.

Peritoneal Fever of Lying-in Women.—Dr. Gooch considers the puerperal or childbed fever an essentially complicated affection, namely, a fever with an affection of the peritoneum. He prefers the name peritoneal fever, because it expresses "the fact that an affection of the peritoneum is an essential accompaniment of the disease, without deciding what that affection is, because it is not uniform." It is remarkable that this disease prevails so much more in certain seasons than in others. It occurs, indeed, sporadically now and then, but the cases are rare and unusually mild. The more prevalent it is, the more dangerous it becomes, the more obstinate and destructive.

Another singularity about the puerperal fever is its occurring chiefly in the practice of one physician, while his colleagues, in the same neighborhood, will meet with few or none. We have known cases of this kind occur, though rarely, in New York. Dr. Gooch relates the case of a practitioner who opened the body of a woman that had died of this affection, and continuing to wear the same clothes seems to have carried the disease to three or four other patients. As soon as he changed his clothes the contagion ceased.

Several other cases to the same effect are related, and if there be no error as to the facts, or none hidden, it would convey an impression that the disease is indeed contagious. This fact being sturdily denied, we must leave it *sub judice.*

Dr. Gooch enters into a detailed history of the disease as traced in the records of medical writers, and as it is not uninteresting, we shall take a rapid survey of their views and practice.

Dr. John Clarke, in 1787, described the disease as occurring in London. It was very fatal; more than two thirds of the patients died. Bleeding, leeches, emetics, bark, and cordials, were all either useless or hurtful. Dr. C. thought that the disease might be occasioned by the purge usually given on the second day; but glysters answered no better. The appearances on dissection were those of inflammation.

Dr. Wm. Hunter thought that three out of four attacked by this disease would die, in spite of any treatment. Richter, on the other hand, says, "I have often seen the childbed fever, and always treated it successfully." He enumerates debility, swelling of the abdomen, colic-like pains, pain in the abdomen on pressure, and pain of the head, as among the symptoms; and the appearances on dissection, inflammation, suppuration, or gangrene in the abdomen. His treatment consisted of a purge two days successively, each to operate three times, and afterwards smaller doses till all the symptoms ceased.

Dr. Lowder, Lecturer at Guy's and St. Thomas's Hospitals thirty years ago, thought that the inflammation was erysipelatous and the fever typhoid. He bled where the inflammation was distinct, but forbore it if the fever was of a low type. In this case bark proved successful.

Dr. Denman, it is well known, was an advocate for early and active bleeding, which he considered not only safe, but absolutely necessary.

Dr. Gordon, of Aberdeen, treated the disease in 1789, and 1792. His essential remedy was bloodletting employed early and freely. He stated that if he took ten or twelve ounces away the patient died; but if he detracted twenty-four, and during the first six hours of the disease, she recovered. He guards practitioners against assuming the pulse as a guide. After bleeding, he gave a bolus of three grains of calomel, and two scruples of jalap, followed by a daily purgative and an opiate every night. Twenty-eight out of seventy-seven patients died.

Mr. Doulcet, one of the physicians to the Hotel Dieu, Paris, treated this disease so successfully, that, in 1782, the Royal

Medical Society of Paris, by order of the government, made a report on his method. He had originally lost a vast number of patients, but was afterwards led to use fifteen grains of ipecacuanha, to be divided into two doses, the one to be given at the moment of attack, if possible; the other an hour and a half afterwards. Vomiting and purging were produced, and the latter was encouraged by a portion made with two ounces of the oil of almonds, one ounce of the syrup of marshmallows, and two grains of Kermes' mineral. Dr. Walsh tried this remedy in England, and pronounced it infallible; and Dr. Denman considers it eminently useful.

Dr. Böer, of Vienna, was also very successful with some one of the antimonial preparations; but he did not divulge which it was.

Dr. Armstrong's views of this disease are well known, as well as his method of treatment. He lost only five cases out of forty-two.

Mr. Hey, of Leeds, son of the celebrated surgeon, saved three cases only out of nineteen before he began to bleed. After he adopted depletion, he only lost two out of thirty-six.

"It appears to me that symptoms and dissections cannot settle the question, and that Dr. Armstrong lays more stress on the argument than it will bear. Supposing many cases of a disease, which bore in general a striking resemblance to one another in the symptoms and the appearance on dissection; this would naturally suggest as a strong probability that they would all be affected in the same way by the same remedies: but suppose that on appying these remedies to all these cases, with the same activity, at the same stage of the disease, and, as far as can be made out, under the same circumstances, they produced different effects on different cases, some being relieved and recovering, others being made worse and dying; this would be more conclusive evidence of a difference between these cases, than the symptoms and morbid appearances were of their identity. The effects of remedies on a disease, if accurately observed, form the most important part of its history; they are like chemical tests, frequently detecting important differences in objects which previously appeared exactly similar. How many diseases are there in which the symptoms are inadequate guides; in cases apparently syphilitic and apparently similar, some as soon as mercury affects the mouth begin to mend, and rapidly recover; in others, the ulcers begin to spread; and so imperfect are the appearances as guides, that I have known the first surgeons in the profession giving opposite opinions about the same case, and a nose lost from taking the opinion of the majority. The local pains and constitutional disturbance which occur in feeble and bloodless persons, and which are aggravated by bleeding and other evacuants, strikingly resemble the local pains and constitutional disturbance which occur in vigorous and plethoric persons, and

which the lancet and other evacuants relieve and ultimately cure; yet how many years is it before the young practitioner learns that there are cases apparently so similar yet really so different, and how to distinguish them—and how many practitioners are there who never learn it at all! Symptoms and dissections can never do more than suggest probabilities about the nature of a disease, and the effects of a remedy on it. A trial of the remedies themselves is the only conclusive proof. Sydenham was so aware of this, that he says, 'Epidemic diseases may seem alike to the unwary, because in some sort they do agree to outward appearance;' adding this confession, 'when a new species of fever arose, I was doubtful how to proceed, and, notwithstanding the utmost caution, could scarce ever preserve one or two of the first patients from danger,' so far from infallible were symptoms as guides."

In his remarks on the histories of the disease, Dr. Gooch admits that there it possesses much uniformity—commencing almost always a few days after delivery, marked by pain and tenderness of the belly, and a rapid pulse, terminating fatally within a week, and leaving the depositions and effusions of inflammation. Further than this, the author denies that it is uniform. Independently of the causes, the symptoms, the effects produced by remedies, aud the morbid appearances after death, are to be evidenced. Now, there is considerable difference even in the first and third of these particulars, according to the statement of Dr. Armstrong himself. Sometimes the signs of local inflammation are very urgent, at other times they are altogether wanting. Sometimes there is extensive effusion with redness of the peritoneum, at other times it is quite pale. Then, as to the effects of remedies, they differ so materially as at once to destroy all idea of the uniformity of the disease. Dr. Armstrong, however, contends that symptoms during life, and the appearances after death, are infallible guides as to the nature and treatment of the disease. This argument is smartly disputed by Dr. Gooch, who insists that the effects of remedies on a disease, if accurately observed, form the most important part of its history—"they are like chemical tests, frequently detecting important differences in objects which previously appeared exactly similar." He instances syphilis and pseudo-syphilis, nervous pains of feeble and bloodless persons, &c., as examples in which symptoms are fallible guides.

PART. II. We now reach the author's own experience of this affection, which was rendered very ample by his appointment to the Westminster Lying-in Hospital in 1812, and by the infirmity of the elder physician, which caused the whole duty of attendance to devolve on himself for several years.

Symptoms. These were developed a few days after deli-

very, and in general very sudden in their attack. They were diffused pain and tenderness, and swelling of the abdomen; a quick pulse, 120 or 130, generally full and vibrating at first, sometimes small, but still incompressible and hard; the skin was not so hot as in other fevers; the tongue was white and moist; the milk suppressed; sometimes the attack was more gradual; the pain intermitting, and the pulse 80 or 90. As the disease advanced, the abdomen became less painful and more swelled, and the breathing short; the pulse, towards the end, was frequent, 140 or 160, and tremulous; and a clammy sweat covered the skin. Yet the tongue was moist and the mind clear, and death ensued on the fifth day.

On dissection, the intestines were found distended with air, the peritoneum red in several parts, its surface covered with lymph, the intestines adhered to each other, and the omentum to them. Coagulable lymph was deposited in the depressions between the convolutions of the bowels and on the omentum; the cavity of the peritoneum contained several pints of a turbid fluid, serum mixed with lymph. The uterus was sometimes found diseased; its substance infiltrated with pus, and containing small abscesses of the size of a nut; the internal surface ragged and dark.

If the author saw the patient within a few hours after the attack, he could generally arrest the disease, and this was his mode of *treatment:*

A vein was opened in the arm with a wide orifice, that the blood might flow in a full stream, and it was allowed to do so till the patient felt faint. It was then stopped, and her head was raised to keep up the faintness. When this had subsided, she took from ten to twenty grains of calomel in a tea spoonful of arrow root, and afterwards half an ounce of sulphate of magnesia dissolved in beef tea, every other hour, till copious evacuations were produced. From ten to twenty leeches were, at the same time, applied to the tender parts of the abdomen. When these had fallen off, a long and broad bag stuffed with hot poultice, so as to form a cushion an inch thick, was laid hot over the whole abdomen, and renewed often to keep up heat and moisture. If the poultice pressed too heavily, the bag was filled with scalded bran. This application encouraged the bleeding from the leech bites, and also acted as a perpetual fomentation. Dr. Gooch thinks it of consequence to delay the local bleeding, which empties the distended capillaries until the violence of the general circulation has been reduced, otherwise it will fail in its object.

With respect to a second bleeding, the state of the abdo-

men and the pulse were the chief guides. If, after the above active means, reaction ensued, the abdomen was still painful and the pulse incompressible, it was resorted to; but if the pulse was soft, then leeches were preferred, and new relays were put on continually till the soreness had subsided. Calomel and salts, and the bran poultice, were not omitted.

This active treatment should be employed on the first day —later, it is under great disadvantages.

Four highly interesting cases are related, in which the above principles of treatment were fully carried into effect. In the fourth case, the patient had been freely blooded three times, and Dr. Gooch found her bleached as white as her pillow, her pulse 150, feeble and tremulous; there was still soreness so that she flinched from pressure. The abdomen, however, was not tympanitic, her breathing was free and her face expressed no anxiety. Opium was administered, and the hot poultice applied to the abdomen. After three doses of the anodyne she slept soundly, and next day her pulse was below 100.

In the lying-in hospital, the practice was not always so successful for several obvious reasons. The constitution of patients is apt to be impaired, their habits are intemperate, and they do not announce their actual condition until it is too late.

All the patients in whom soreness of the gums was produced recovered.

The oil of turpentine did not prove so successful in the hands of Dr. Gooch, as in those of Dr. Brennan of Dublin. Turpentine applied hot, externally, did great service in several cases.

From the above cases, and the experience which he had accumulated up to 1820, Dr. Gooch came to the conclusion that the disease was a fever attended by acute inflammation of the peritoneum; that the inflammatory state was short, soon terminating in a great and irremediable effusion; and that it was curable in the inflammatory stage only by active bleeding and purging, employed during the early hours of the disease. He was destined to experience disappointments, and he relates ten cases which completely set this conclusion at nought.

In the first case, a slow soft pulse attended the disease throughout, though there was a diffused and permanent pain over the abdomen, with tenderness not to be distinguished from the same symptoms when accompanying inflammation, yet they did not depend on that state, as there was no hardness of pulse; and they were relieved without depletion, by fomentations and opium.

In the second case, the difficulty of distinction was still greater than in the first: the pulse, and all the symptoms supposed to indicate inflammation, were present. The previous constitution of the patient, the perfect softness of the pulse, the inflamed appearance of the blood, and the absence of relief after bleeding, led to the successful employment of opiates and fomentations.

The third and fourth cases proved fatal after bleeding. The fourth case was examined after death. The peritoneum was healthy, but pale; and there were one or two ounces of serum in its cavity. Opium, Dr. Gooch thinks, would have relieved those patients.

In the sixth case, the pulse was rapid and feeble; there was immense distension of the abdomen, so as to separate the recti muscles to the distance of two hands breadth; pain and great tenderness there; oppression at the præcordia; dyspnœa. Bleeding was not resorted to; but a purge, and afterwards an opiate, were given. It terminated fatally on the third day after delivery; the labor had been extremely severe. The intestines were found enormously distended with air; *but, in the peritoneum, there was neither redness, adhesion, nor effusion of any kind.*

The seventh, eighth, and tenth cases, are confirmatory of the last—no mark of inflammation having been present in the peritoneum.

Numerous other cases occurred, tending to prove the inefficiency of bleeding. The last case is from Dr. Farre's Journal of Morbid Anatomy, by Mr. Dalrymple, who also furnished the author with a statement of the extent to which bloodletting had been carried in eight cases, all of which proved fatal. The author has thrown it into the form of a table, which we subjoin.

Case	Pulse.	Time of Bleeding.	Quantity.	Appearances of Blood.
1	hard	5 hours	8 ounces, 24 leeches	less buffed and cupped than was expected
2	hard	4 hours	42 ounces	buffed and cupped
3	quick, but not hard	very early	18 ounces, and leeches	not cupped
4		7 hours	bled from arm and leeches	neither buffed nor cupped
5	soft		24 ounces	cupped and buffed
6	not hard		18 ounces, and leeches	neither buffed nor cupped
7	very quick and feeble		very large	
8	quick and feeble		very large	

The last case, related by Mr. Dalrymple, occurred in the wife of a farmer, in whose dairy a number of cows, after calving, had been seized with a disease similar to puerperal fever, and who had paid great attention to the sick animals.

During the last autumn and winter, (1828-9,) twenty-eight cases of peritoneal fever occurred in the Westminster Lying-in Hospital, of whom seven died. A large proportion of these were cured at once by ten grains of the compound powder of ipecacuanha every three or four hours, for three doses, and a hot linseed poultice over the whole abdomen. Leeches would always remove the soreness. As soon as the violence of the symptoms was subdued, a mild purge was administered. In those cases in which the lancet was employed, its effect was discouraging: the patients fainting after losing a few ounces, the blood bearing no marks of inflammation, and greater exhaustion following its use. The experience, therefore, of Dr. Fergusson, who is the physician to this institution, confirms that of Dr. Gooch, who appears to have used bloodletting boldly and freely, and with great success, up to 1820; but, from that year down to the present, with none whatever.

The last case, related by Dr. G., is an interesting one, and we shall therefore present an abstract of its symptoms, as well as of its post mortem appearances.

CASE XV. Mrs. —— had had, after a former lying-in, a loosening of the bones of the pelvis, which caused long suffering, but from which she had recovered, and was well at the time of her present labor. On the day after her delivery, she was seized, about two in the afternoon, with shivering, followed by a dry heat, quickened circulation, and pain over the abdomen. *A purgative was given, which operated fifteen times.** The next day at two, she had another shivering, and became feverish. Opiates and aperients were given, and the pain subsided, but she never felt easy in the abdomen. On the fourth day, she had pain in the head, to which leeches were applied; and afterwards six ounces of blood were drawn from the arm. On the fifth day there arose new symptoms of pain and tenderness of the abdomen, also in the sacrum. The pulse was 120 and hard, so that fourteen ounces of blood were drawn. At this time Dr. G. first saw her. The pain and tenderness were still so severe in the right iliac region, that the patient could not breathe without exclamations of suffering. The uterus was large

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*Had this active purgation any influence in exciting disease in parts already predisposed and irritated by preceding labor?

and tender, the abdomen soft and without tension. There was no milk in the breasts; the lochia were scanty; the pulse soft, and 120; bowels free. *Twelve leeches to the abdomen; linseed meal poultice;* and when leech bites had stopped, *fourteen more leeches. Twenty drops of the sedative solution of opium; calomel gr. ij. every two hours; and five grains of Dover's powder every six hours.* The next day all the symptoms were better, except the pulse, which was still 120. *Salts and senna* were given, to open the bowels, and Dover's powder discontinued. At night she was not so well; her cheek was flushed; great heat and perspiration; her mind became confused; there was excessive flatulence, and the abdomen was tympanitic; pulse 116; gums sore, and tongue swollen. *Turpentine and castor oil.* Next day, much worse; pulse 128; flatulence; *death.*

Post Mortem Appearances. Putrefaction had made great strides. The intestines were immensely distended with air. The peritoneum was not red, nor did it adhere. In the lower part of the abdomen, there were three ounces of a bloody transparent fluid. In both ovaries, the internal glaudular structure was destroyed, leaving a hollow capsule. The fallopian tubes contained pus at the fimbiated extremity. The colon was healthy. The joints of the pelvis contained a bloody fluid.

The author indulges in various reflections on this case, which we shall not repeat, as we think every reader competent to form his own conclusions.

From all the foregoing facts, Dr. Gooch infers, that there is a form of peritoneal fever, different from that which has inflammation for its principal characterestic, and which is relieved by prompt and active depletion. It is also different in its duration, which is much shorter; and lastly, in the morbid appearances it presents after death.

The great object in all cases must be to ensure a sight of the patient, as early after the attack as possible. The next is to be with the patients constantly, and watch every change of symptoms; and, lastly, the treatment must be undertaken with the impression that all cases do not depend on one and the same state, neither do they demand one and the same treatment.

The remedies for the efficacy of which there is the strongest evidence on record, are, 1st, bleeding and purging; 2d, emetic doses of ipecacuanha; 3d, opiates internally, and poultices externally; 4th, mercury so as to affect the constitution; 5th, oil of turpentine. Might not the author have added a sixth division in which two or more of these are combined?

The author concludes with some very judicious remarks on each one of the above divisions; but as their import has been pretty fully anticipated in the previous part of this work, we need not be delayed by them.

CHAP. II. *Disorders of the Mind in Lying-in Women.*—There are two periods, at which, chiefly, the mind may become disordered. The one is soon after delivery; the other several months afterwards. Instead of a general description of the disorder, the author details several interesting cases. As there is nothing peculiar in them, except the period in which they occurred, we shall not dwell on them. The following extract will convey more important information.

"There can be no doubt that a very large proportion of cases of disordered mind in lying-in women and nurses ultimately recover, but it is equally certain that some of them die, and there are two modes of calculating the probability of death in any individual case; the one is to ascertain the proporttion of deaths to recoveries in as large a number of cases as possible, the other is to endeavor to discover some symptoms, the absence or presence of which indicates safety or danger. As to the former of these modes, it is very difficult to procure trustworthy information. M. Esquirol, of Paris, has given an account of ninety-two patients in the Salpetrière who had become deranged while lying-in or nursing. Of these, six died, that is, one in fifteen; but this estimate must give the mortality in chronic cases rather than recent ones. Dr. Burrows has published a table of fifty-seven cases, of which ten died; this is a mortality of more than one in six. The best mode of forming an estimate of the mortality of this disease, would be to procure statements from a great number of practitioners extensively employed in the practice of midwifery, of how many cases of puerperal insanity they had met with in their practice, and of these how many had died. This would be the best mode, although none but those who have tried to procure information in this way, can have a notion of the difficulty of procuring answers scrupulously accurate. But however accurate the estimate may be, it must afford a very loose prognosis for any particular case. To a question about the probable fate of a patient, it would be a vague answer to say that the mortality is as one in fifteen. It would be more like the opinion of the actuary of an insurance office than of a practical physiciau. The question would naturally occur, are there no symptoms in this as in other diseases by which to judge whether or no the life of the patient is in danger?"

The answer of the author to the last question, is drawn from an observation made by Dr. Wm. Hunter, in his lectures, and supported by his own experience; that there are two forms of puerperal mania, the one attended by fever, or a rapid pulse—the other by a very moderately excited circu-

lation. The latter cases recover; the former generally prove fatal.

Mania, soon after delivery, is more dangerous than melancholia some months afterwards. Nights passed in sleep, a slow and firm pulse, are favorable.

"In the cases which I have seen terminate fatally, the patient has died with symptoms of exhaustion, not with those of oppressed brain, excepting only one case."

A prognosis of the duration of the disease is difficult, and little light has yet been thrown upon it.

The author next starts a question, whether a patient who has been disordered in the mind after one lying-in, is likely to be after another? The proportion of cases in which the disease has occurred twice, is very small. Great care should, however, be taken to prevent it.

Etiology. A large proportion of the cases seen by Dr. Gooch, occurred in persons, in whose families disorder of the mind had previously appeared. The patients were of susceptible dispositions, nervous, remarkable for those peculiarities which distinguish the sexes, suffering by the depressing passions, or suddenly assailed by mental agitation. In some, no such causes existed. The only one here inferred, is the peculiar susceptibility of lying-in women. This cause has been deemed unsatisfactory; but so might every other predisposing cause. Disordered digestion, and weaning, have also been supposed to produce this disease. The first, the author admits; the second, he doubts.

Pathology. Dr. Gooch is not inclined, with the populace, and he might have added, many scientific physicians, to attribute all afflictions of the mind to inflammation of the brain, and suppression of the lochia. The following is his own view.

"Experience and reflection lead to very different conclusions; they teach us that a disorder of the mind may be connected with very opposite states of the circulation; sometimes with inflammation or active congestion, for which depletion is the shortest and surest remedy; sometimes with an opposite condition of the circulation, which depletion will only aggravate.

"Cerebral excitement does not necessarily depend on inflammation or congestion, nor is depletion, however moderate, necessarily the proper remedy. Cerebral excitement is often aggravated by depletion; and, in some cases, as I shall have occasion to relate, absolutely brought on by it. Now, the question, what is the morbid state of organization on which puerperal insanity depends, must be determined in the usual way. There is only one safe mode of working the problem, by observing the causes which brought on the disease, the bodily symptoms which accompany it,

the way in which it is affected by remedies, and the morbid appearances discovered after death. These points can be learned only by an attentive and thoughtful observation of cases, and will be best communicated by the relation of them."

From the cases adduced in corroboration of this view, we shall select the following:

"Mrs. —— was delivered of her first child after a natural labor, attended, however, by rather more than the usual loss of blood. From the first her manner appears to have been excited and unnatural. Her nights became restless, her mind more excited, and about three weeks after her delivery she became maniacal. Her pulse was 140 before any active remedy was employed. She was put upon low diet, leeches were applied to the head, and she was freely purged with calomel and castor oil. The symptoms not abating, and the patient becoming very violent, a cupper was sent for, who took ten ounces of blood from the head by cupping glasses, and the following morning I saw her for the first time. She was sitting up in bed in a straight waistcoat. Whatever was asked her she did not answer, but repeated it like an echo. 'Have you any headache?'—'have you any headache?' 'Put out your tongue'—'put out your tongue.' She would not say any thing else. Her tongue was moist and pale—her pulse was between 120 and 130, small and weak—her bowels had been lately freely moved—her skin was not hot, her face was very pale—she had had no sleep for many nights. This being the state of things, I thought it a great object to procure repose. She therefore took twenty minims of the sedative solution of opium, and ten minims in a two ounce glyster every six hours. This procured six hours of uninterrupted sleep, and when awake she was more herself. Some symptoms led her attendant to employ another bleeding by ten leeches to the head, which was shaved, and a blister applied to the crown. When I saw her two days after my first visit, she had had in the night several hours of sleep, and was so much better in mind, that her friends were surprized when I told them that she was not out of danger. Her face was very pale, and her pulse so quick, small, feeble, and fluttering, that I remarked to her medical attendants that she would not bear the loss of another ounce of blood. It was agreed that she should continue her small opiate glysters, and that care should be taken to supply her with sufficient nutriment; but the next day the symptoms of exhaustion became more alarming, and when one of her medical attendants visited her in the evening, he found her pale, cold, breathing only at long intervals, and with scarcely any pulse—she died that night. The body was opened the next day by two very experienced anatomists. The veins throughout the body were remarkably empty—the heart contained little blood—the lungs and liver were singularly pale. Within the head there was the same deficiency of blood in the veins of the pia mater, and in the sinuses—under the arachnoid membrane was a little serum. On slicing off the hemispheres, the bloody points were unusually numerous."

On this, and other cases of a similar nature, the author builds a long train of reasoning, to prove that the puerperal mania is a disease of excitement without power, requiring soothing and nourishing treatment, rather than antiphlogistic measures, which he maintains to be injurious.

Treatment. The first rule laid down is, that the attenddants on the patient should be such as will control her mildly, but effectually; and who are not too nearly related to her. Relatives, in fact, ought not to be admitted to her, especially her husband.

The second regards the diet, which ought not to be very low, but consist of nutritious and unheating fluids, as gruel, milk, veal broth, &c. It may be necessary in some cases to lower this diet, but the majority of cases will even require wine and meat.

The third rule relates to medicinal agents. These are, 1st, venesection; 2d, emetics and purgatives; 3d, anodynes; 4th, tonics and stimulants. A selection is of course to be be made, adapted to each individual case. The presence of fever, is the only indication for the first means, which is generally injurious.

The fourth rule indicates seclusion, and control of the patient.

We pass over the remarks "on insanity, considered as an object of moral science," because it has no immediate practical reference to the subjects under consideration.

The *third* chapter treats of the mode of distinguishing pregnancy from the diseases which resemble it. It is an useful and practical essay, full of information to the student; but as it does not present any novelty, we shall not be detained by it.

Chapter *fourth* is likewise an elementary treatise, and treats systematically of polypus of the uterus.

CHAP. V. *Of the Irritable Uterus.*—We believe that Dr. Gooch is the first author who has called the attention of the medical world to this interesting disease, and we shall therefore attempt to make his views of it as fully known as our limits will permit.

By the irritable uterus is understood "a painful and tender state of that organ, neither attended by, nor tending to produce, change in its structure." The author has met with it repeatedly during the last twenty years, and at first mistook it for chronic inflammation. But although he found it obstinate and intractable, he is satisfied that it produces no disorganization appreciable during life. The pain it occasions is different from that of dysmenorrhea, which occurs

only during the menstrual period, and is quite absent at other times; or from that of prolapsus uteri, which is relieved by the horizontal posture, and by the replacement of the organ; or, lastly, from that of diseased structure, of which the existence may be ascertained by examination.

The pain from the irritable uterus, is felt in the lowest part of the abdomen, along the brim of the pelvis, and often in the loins. It is greatest during exercise, and in the horizontal posture; it does not, however, cease in the latter condition, as it would in prolapsus uteri. On examination, the uterus is found very tender; the vagina is insensible to the touch; but the moment the womb is felt, exquisite pain is the consequence; and this lasts several hours after the examination, as in the irritable tumor of the breast, described by sir Astley Cooper. This pain varies at different times. The uterus feels perfectly natural; there is no appearance of scirrhus. The pain comes on in paroxysms, and distresses the patient, although she indulges in a reclining position. The general circulation is undisturbed; the pulse is soft, and not much quicker than natural, but is easily quickened by the slightest emotion. The general health is variously reduced; in delicate constitutions, it will be the most affected. The function of digestion is impaired; the bowels require aperients, but an active purge is sure to occasion a paroxysm of pain.

The causes are extraordinary bodily exertions, at times when the uterus is in a susceptible state. In one patient it came on after an 'enormous' walk, during menstruation; in another it was occasioned by the lady's going out a shooting with her husband, not many days after an abortion; others, by standing long at concerts; matrimony, &c. All these patients were predisposed by mental and corporeal sensitiveness. Its continuance leads very naturally to serious apprehensions of diseased strcuture; but frequent examinations betray nothing except tenderness and slight swelling, or rather tension; neither does the disease terminate in disorganization. Entire recovery will take place after years. Amendment is always slow, and subject to frequent relapses.

What is this disease? The only answer which our author attempts is, that it is a disease of irritation, similar to that which affects other parts, such as the breast; of which we gave a full account in our last number, in the analysis of sir Astley Cooper's work; or of the joints, of which Mr. Brodie has written an excellent description. This gentleman considered this latter affection to depend on a morbid condition

of the nerves, and regarded it as a local hysterical affection. The irritable testicle, too, falls perhaps under this class.

Treatment. The object is first to subdue pain; secondly, to restore the general health. The remedies for the former object are, the horizontal posture, narcotics, the warm hip bath, occasional local bleeding, to which may be added mercury and counterirritants. Where the pain is constant, equal repose should be enjoined. The patient must be taught to write, read, work, &c. in a position on the sofa, so that her shoulders are as low as her pelvis. This posture must, however tedious, be submitted to, not only till all the pain hath ceased, but for some time afterwards.

Bloodletting. When the general circulation is unaffected, local will be preferable to general bleeding. Cupping gives more decided relief than leeches. The cups should be applied to the upper part of the sacrum, or to the part in which the pain is felt. Leeches to the hemorrhoidal vessels, or to the labia, will also give relief. The quantity drawn must be regulated by the strength, the duration of the disease, and the relief afforded; when the strength has been exhausted by the long continuance of the disorder, the measure should be moderate. Four ounces have sometimes proved eminently serviceable. The pain, if diminished, will increase again, and return if removed. To anticipate and prevent this, the bleeding should be repeated, but not so largely as at first.

Narcotics. The best preparation of this class to be prescribed, is, one third camphor, and two thirds extract of henbane, or hemlock, or poppy, divided into pills of five grains, of which one may be taken twice or thrice a day; or about ten grains of the extract of poppy, dissolved in one ounce of gruel, may be injected into the rectum daily, after the bowels have acted. This may be repeated, and should always be replaced, if discharged. *Laxatives* will be necessary, as want of exercise, and narcotics, will induce confinement of the bowels. Any mild aperient, as castor oil, Epsom salts in infusion of roses, &c. will answer.

The warm hip bath, at the temperature of 96° per half an hour, every or every other night, is very useful sometimes. The partial steam bath may be used with benefit every other day.

Mercury. A mild course of this alterative, in the form of blue pill, or calomel mixed with henbane continued for weeks every other night, has sometimes, without affecting the gums, kept the bowels open, and overcome the pain, and even prevented its recurrence. This has been its effect in sound constitutions, and during the early period of the dis-

ease. Debilitated frames are injured by it, even if the local disease is relieved. These observations on mercury are curious, as the general impression has been that, in diseases of irritation, this medicine invariably does harm. Its value has been tested by Mr. Fernandez, of London, who first induced our author to employ it. This gentleman also cupped in recent cases to faintness, and with good effect.

External Irritants. Small blisters often renewed, a caustic issue on the sacrum, have proved advantageous sometimes. In very sensitive constitutions they are to be avoided.

All the above remedies may be safely used, except bleeding and mercury, about which too much caution cannot be enjoined. "It is a good rule," observes Dr. Gooch, "in the treatment of all diseases, whether acute or chronic, when the remedies are affording little relief, when the constitution, rather than the disease, seems to be yielding under them, to desist from them." Where there is no congestion, bleeding will do harm.

Tonics. When the disease has lasted long, and is not relieved by the means already detailed, is accompanied by impaired health, cold extremities, and a pale complexion, chalybeates will be proper and useful.

The result of the author's treatment has been, that some who had been ill for several years, recovered after a few months, by simply avoiding the exciting causes. Others have relapsed by laying aside this caution; and in some cases, the best efforts have alleviated, not removed, the disease. There are fewer cases occurring of this hopeless condition now, than formerly. Dr. G. mentions as important, that in the cases which remained uncured after several years, the patients had, for the relief of their pain, accustomed themselves gradually to a daily enormous allowance of opium.

The last chapter is a valuable one, and treats "of some diseases in children erroneously attributed to congestion of the brain." As it is not connected with the subject of this volume, we have preferred making a pretty large extract from it in our foreign selections. It will furnish useful hints, and amply repay perusal.

MEDICAL EXTRACTS.

NO. III.

Medical Profession in Berlin.—The medical students in the German universities, form more than one fourth part of the whole number. In 1825, the whole number of students was between sixteen and seventeen thousand, at least five thousand of whom belonged to this department. Such an army of doctors issuing forth every three years from those institutions, would be terrifying to any nation but the Germans. It is to a considerable extent the custom in this country, for each family to have its family physician, who calls every two or three weeks to ascertain the state of their health, in order to anticipate disease. At the end of the year he receives a present from the family for this service, proportioned to their means and liberality. Besides this, he has separate fees for visiting them when sent for. The fees of the physicians are regulated by an ordinance of the government of the cities. In Berlin, it is about seventy-five cents for the first, and fifty for every subsequent visit, though foreigners are expected to quadruple it. Considering their ability, for they are as a body perhaps surpassed by those of no other city of its size, they certainly work much more reasonably, than any other class of professional men within my knowledge.

All German governments support the medical department of the universities very liberally. They are very well provided with cabinets of anatomy, of mineralogy, and with botanical gardens. Here, as well as in some other countries of Germany, there is 'a minister for religion, education, and medical affairs.' As the medical department does not in the remotest degree interfere with politics, it is thought worthy of peculiar patronage. No individual is allowed to receive the title of M. D., until he has completed his three years' course at one of the universities. In Prussia, every student must repair to Berlin before he is permitted to practice, where he is minutely examined by a medical committee, and unless he is pronounced well qualified, he must return to the university and continue his studies. The advantages for acquiring a complete education are so numerous, and the hospitals are so extensive in the large cities, that no one can fail of becoming a good theoretical and practical physician, if he has a moderate share of talents and industry. The Prussians, and in truth all the northern Germans, pride themselves not a little on the talents and attainments of their medical

professors. In reputation, the medical faculty is not surpassed by any of the other three. They display the same general knowledge of their professions as gentlemen of other departments, and are to a very considerable degree familiar with the past and present state of their science in Europe, and in our own country. I have seen on the table of a physician, the medical journals of Boston, New York, and Philadelphia, Silliman's Journal of Science, the North American Review, &c., with many of the periodicals of Paris, London, and other cities of Europe. Several of their physicians have conversed with me respecting Messrs. Physic, Chapman, Hosack, Post, Warren, and other eminent physicians of our country, more in the manner of Americans familiar with the reputation of these gentlemen, than as residents of the centre of Europe.—*H. E. Dwight's Travels in the North of Germany.*

Diseases, and Statistical Tables.—In the bill of mortality for the past year, the number of deaths is stated at 6426, or somewhat over 123 weekly. If this is compared with the mortality of our cities, it will be found, if I mistake not, much in our favor. Berlin now contains about 200,000 inhabitants, not varying one or two thousand more or less. As our seaports are the constant resort of strangers, the number of deaths is probably increased by some hundreds, which ought to be deducted to put them on a just scale of measurement. Of the 6426 who have died, 3222, or more than half, were under ten years of age. Here we have greatly the advantage, as one half of the population in the United States arrives to the age of twenty, and in our cities to at least the age of fifteen. I cannot account for this mortality among children. The climate is much less variable than with us, and our extremes of temperature, though sometimes almost equalled here, are never surpassed. It may be partially owing to the moisture of their winter and spring, and possibly to the fact that houses are not so impervious to the air as those of our northern cities. This last circumstance, judging at least by one's comfort, seems to be more than counterbalanced by their stoves, which diffuse an equal temperature throughout the room. We have almost universally carpets; here they exist only in the houses of the rich. Even with this comfort, and the superiority of our houses, the temperature of our rooms is not equally agreeable. The cause of our less frequent mortality is probably found in our manner of living. The poorer class of the inhabitants of our cities are better clad than those of this town, and almost without exception have sufficient food. Here the indigent are unable to procure meat oftener than once or twice a week, and sometimes not once a month. Though the expense of living here is less than at Paris, in proportion to the price of labor, it is twice as great as in our own cities.

The diseases prevailing here generally correspond with those found in the United States; but they prevail in different proportions. In Boston, one fourth, and in some years almost one third; in New York, one fifth; and in Philadelphia, one sixth, of the deaths are of consumption. In this city there were but 416, or one in fifteen and a half, who died of that disease. This may be accounted for

from the greater variableness of our climate, and the comparatively small number of sudden and violent changes of the weather in Prussia; and probably still more from the fact that the Prussian girls have more common sense in their toilette than those of our cities, and rarely wear the dress of summer when the themometer is below the point of congelation.

Of cramp or spasms, *(krampfen,)* 1091, or more than one sixth, died. Of these 837 were under one, and only 68 over ten years of age. This is a much greater proportion than with us.

Of dropsy, the deaths were 435; of whom 77 were of dropsy in the head, and 101 of dropsy in the breast. This number, if I mistake not, is several times as great as in our cities. There is nothing in the German mode of living to produce this effect, except the prodigious quantity of beer which they drink. This, I have no doubt, has not a little influence.

Of *schlagfluss*, apoplexy, and *stickfluss*, or croup, there were 558 deaths. There were 512 who died of debility and old age; 157 of feebleness soon after birth; 75 by accident, of whom 27 were drowned in the Spree; and 252 of teething.

Of wasting or consuming fevers, *abzehrenden fiebern*, 1076 died; of nervous fevers, 164; of scarlet fever, 108; and of inflammatory fevers, 473, of which 162 were on the lungs. Of childbed, and the fevers which succeed, 47 died.

The remaining deaths were, of whooping cough, 52; smallpox, 7; measles, 60; quinsy, 81; *blustürz*, or hemorrhage, 34; cancers, 57, of which 48 were women; and suicide 47—10 women and 37 men, &c. &c. The deaths by suicide in 1824, were 57, or ten more than during the present year. Notwithstanding the *Schwärmerey* of the Germans, this is not so great a proportion as in Paris, and I believe a much smaller than in London. It is a singular fact, that the greatest number of suicides occurred during the brilliant month of May. Nine terminated their existence during this month, only one in February, and one in the gloomy month of November. The Germans in this respect are the reverse of the English; for whom November is proverbially the month to hang, shoot, and drown themselves.

The following is a list of the deaths and births of Prussia during eight years, from 1817 to 1824 inclusive.

	Births.	*Deaths.*
1817,	454,600	307,000
1818,	463,554	313,755
1819,	492,799	334,438
1820,	484,936	297,284
1821,	504,160	287,573
1822,	502,925	314,513
1823,	498,643	318,878
1824,	505,238	318,457
Total,	3,906,855	2,491,898

The number of births and deaths in France between 1817 and 1824 inclusive, was as follows:

	Births.	*Deaths.*
1817,	944,125	748,223
1818,	913,855	751,907
1819,	987,918	788,055
1820,	958,933	770,706
1821,	963,358	751,214
1822,	972,796	774,162
1823,	964,021	742,735
1824,	984,152	763,606
Total,	7,689,158	6,090,608

From this statement, you will perceive that the number of births in France in eight years, amounted to 7,689,158. During the same time they amounted in Prussia to 3,906,858. France has a population of nearly 32,000,000, while that of Prussia in 1825 amounted to 12,003,810. Prussia, with rather more than a third of the population of France, had, during these eight years, more than half as many births as the latter country. This great difference is a striking exhibition of the comparative elevation of the lower classes in this country.

From this statement it will appear, that during these eight years, the number of births exceeded that of deaths 1,414,880, or they were also in the ratio of five to three. This, for a European country, is a great excess, and for one laboring under such heavy taxes as Prussia, is a favorable exhibition of the industry of the nation.

Of the 2,491,978 deaths in this country during these eight years, there were 7155 of suicide, almost 900 yearly, or about 29 in 10,000 deaths. Of the suicides in France during this period I am ignorant. There were, however, in the city of Paris during these eight years, from 1817 to 1824 inclusive, 2808, (vid. *Berlinische Nachrichten.*) From this statement, however, it is impossible to form a comparison, as Paris, being the metropolis of misery, as well as of splendor, the proportional number of suicides is much greater there than in the provinces.*

During these eight years, 37,633 died in Prussia of accidental death, or 4704 annually. In every 10,000 deaths, those caused by accident were 151. During this period, 18,051 died of the smallpox, principally in the provinces of Silesia and Posen. In every 10,000 deaths, 72 were of this disease. There were during these years 123,958 born dead, or more than 15,000 yearly; that is, in every 10,000 deaths, 497. 35,608 were born where the mother died, or 451 yearly, or 143 in 10,000 deaths. All unlucky deaths, viz. those by accident, misfortune, violence, &c., amounted to 222,440, or 22,805 yearly, or in 10,000—892.

The number of births in Berlin during the year 1825, was 8033, of which there were twins in 95 instances. The births exceeded

* I have no account of the illegitimate births of Prussia during this period. There were, however, born in France during the eight years, from 1817 to 1824, 272,040 boys, and 259,144 girls, or a total of 531,184 illegitimate births, or one in every 14½ births in all France was illegitimate.

the deaths by 1607. The average number of daily births was 22; of deaths 18. There were 502 births and 40 deaths more than in the previous year. In 1825, there were 2126 couples married. In 1824 there were 1801 marriages, giving an excess of 325 in favor of the last year. Of 6426 deaths, 599, or about one eleventh, were over seventy years. During this year, 331 were born dead, that is, one twenty-fourth of the births, and one nineteenth of the deaths were of this class. Among the legitimate births, one twenty-sixth part were thus born, and among the illegitimate, one in ten.—*Ib.*

Lunatic Asylum of Pirna.—At Pirna, is one of the principal lunatic asylums of Saxony. For neatness and discipline it is excelled by few on the continent. The patients are about one hundred and thirty in number, two thirds of whom are men. Most of the females, as the attending physician informed me, had lost their reason from disappointed love. As this passion is said to be more deep and lasting in Germany than in any other country on the continent, it is not perhaps surprizing that it has thus affected the minds of so large a proportion of the sufferers. Here is a machine designed to lessen the pressure of blood on the brain. A platform, in the form of a bed, is attached to a cylinder, which, by means of wheels and ropes, is made to revolve with greater or less rapidity. The patient is placed upon this, with his feet at the extremity. A rapid revolution gives a far more accelerated motion to the feet than the head, and causes the blood to fly to the former. In most cases, this motion affords the patient great relief. In those which are very violent, they resort to baths, of which there is a great variety. In some, the water is thrown from a tube, the size of the stream being lessened or increased at pleasure. If this produces no effect, the invalid is made to sit up in the bath, when several large buckets of water are dashed upon his head. The electrical shock of this element, coming as it sometimes does from the height of ten feet, has in every instance afforded some relief. This violent shock is always succeeded by an agreeable sensation, and for a time the patient is easily governed. Most of the persons in this asylum are deranged but on one subject; on all others they are perfectly rational.—*Ib.*

Blumenbach on Snow Ophthalmia.—Xenophon, in his account of the expedition of the younger Cyrus, relates, that when the Grecian army was crossing the snowy mountains of Armenia, between the Euphrates and Phasis, in the middle of winter, (which answers to the beginning of January, according to our present mode of dividing time,) many of the soldiers were blinded by the insupportable brightness of the snow; and that, with the intention of preventing or curing this annoying affection, they bound something black (μελαν τι) before their eyes.*

It appears that this snow ophthalmia, of which we sometimes see examples even among ourselves in the winter season, is endemic

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* iv. 5. p. 294. 4th ed. of Hutchinson, Cambr. 1785.

in alpine and northern countries; so that the Laplanders, when returning from the chase of the wild reindeer, are for some days almost entirely destitute of sight.* The Greenlanders are affected with this disease of the eyes chiefly in the months of May and June, and if it continue longer, they attempt its cure by making an incision in the skin of the upper eyelid.† The Esquimaux labor under this ophthalmia, more especially when the surface of the snow, which covers the ground on all sides, has been partially melted, and again, by the action of the frost, converted into a solid crust. To the incapability of bearing light, there is at first joined a disagreeable sensation, as if grains of sand had fallen into the eyes, which, as the disease advances, increases so as to resemble the effect of the strongest sternutatory powder, and they are seized at the same time with a very violent tonic blepharospasmus. These affections sometimes, though rarely, disappear in ten days; but not unfrequently they remain for four weeks.‡

Of the mechanical remedies used by the savages to prevent this blindness, which results from an intense glare of light reflected from the snow, I may mention two which happen to be at hand; one of them is of the same kind as that mentioned by Xenophon, and is at the present day much in use in those northern countries—something black, which is stretched before the eyes; that is, a sort of net work or gauze, made of horse hair, a little convex anteriorly, lest it should impede the free motion of the eyelids. There is a specimen of this preventive machine among the curiosities of our academic museum, presented by M. de Asch, to whom I am indebted for innumerable articles supplied to my collection of natural objects, with a note attached, signifying that it is used among the Tartars, especially when hunting or travelling in winter, and that it is called in their language *kaar yoeslik*, which means *eye bandage*.§

The other of these machines is constructed on a very different plan, by the Esquimaux, on the coast of Labrador. Although we find many things related by Ellis, Crantz, and other authors who have visited those eastern shores of America, regarding the wonderful sagacity with which the Greenlanders and Esquimaux construct their snow spectacles, or *snow eyes*, as they call them; yet, as they seemed to be neither very accurate nor clear, I applied to one of the missionaries that he might give me a correct account of the matter, in as far as regarded the part of the country in which the colonies of his brethren had been established. This benevolent man afforded me the necessary information, and moreover sent me a specimen of those spectacles, made by the Esquimaux themselves of the colony of Hoffenthal, on the Labrador coast, and

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* Kaud Leem, on the Laplanders of Finmark, p. 52.

† Crantz, Histoire von Groenland, v. i. p. 297.

‡ Cartwright's 'Journal during a residence of nearly sixteen years on the coast of Labrador,' vol. i. p. 102.

§ Concerning a similar apparatus used by the Persians for preventing the snow ophthalmia, see Chardin's Travels, vol. i. p. 211; and Bell of Antermony's Travels, vol. i. p. 84.

which, both with respect to simplicity of design, and accuracy of adaptation to the end in view, testifies the great ingenuity and acuteness of these savages, in alleviating the inconveniences of their mode of life.

A few words will suffice to illustrate the figures by which this machine is represented. It is made of a very smooth wooden substance, like poplar, of that remarkable, and, in as far as regards its origin, as yet enigmatical, kind, which is driven upon the northern shores of the globe. The posterior surface which covers the nose is pretty deeply cut, to prevent it obstructing the free motion of the eye. There is a notch cut on each side, at the lower margin, which is applied to the cheeks, and which is scarcely subservient to any other purpose than to afford a passage to the tears, which are rapidly secreted in an inflamed eye. The upper margin of the fore side is more prominent than the under, so as to protect the eye from the snow, or act as a shade in keeping off the sun's rays. The other side is blackened with soot, so as to absorb a part of the dazzling light. Lastly, the apertures made for vision are in the form of narrow slits, and so placed as to correspond with the eye, having the lids nearly closed. I have of late, unfortunately, had occasion to try this machine, being troubled with a severe and obstinate tonic blepharospasmus, which has continued for several months; and when it was necessary for me to look minutely at anatomical preparations, or other natural objects, in a clear light, I have found nothing of equal assistance, or so convenient, as these Esquimaux spectacles of which we speak. Moreover, what all have testified, who, seeing this machine in my museum, have made trial of it—it answers the purpose of a telescope; and Ellis says, that the savages just mentioned, although they are less dazzled by the brightness of the snow, apply it to their eyes only with the view of observing remote objects more distinctly.*—*Edinburgh Philosophical Journal, vol.* 8.

Method of Bloodletting in the Shetland Islands.—In Shetland, there are several native popular remedies. Scurvy grass, for instance, is used in cutaneous complaints; buttermilk in dropsy; the shells of whelks calcined and pounded, for dyspepsia; and a variety of steatite, named in the country, *kleber*, for excoriations. But the mode for letting blood, known from time immemorial, deserves the most particular notice. When the native chirurgeon is called in, he first bathes the part from which the detraction is to be made with warm water, and then draws forth his cupping machine, which consists of nothing more than the upper part of a ram's horn, perforated at the top, and bound round with a soft piece of cotton or woollen rag. In applying it to the skin, he sucks out a little of the included air, takes off the horn, makes upon the part that has been thus gently raised six or seven slight incisions, again fixes the cupping instrument, freely draws out the air by the reapplication of his lips to it, and either by insinuating his tongue within the perforation,

* Page 143, Gottingen edition.

or by twisting round it a piece of leather or bladder, prevents the ingress of fresh air. He next uses coarse cloths, wrung out with warm water, to stimulate the flowing of the blood; and when the horn is half filled, it leaves the skin and falls down. The same process is repeated several times, until a sufficient depletion has been made. It is worthy of remark, that the African negroes, described by Park, have a similar mode of cupping.—*Dr. Hibbert's Description of the Shetland Islands.*

On the Difference between Sea and Land Air.—Having learned that, on the Baltic, asthmatic invalids were much better at sea than on the shore, M. Vogel analyzed the air a league from the shore, and concluded 1st, that the air above the Baltic, a league from the shore, contains less carbonic acid than the ordinary atmosphere, and carbonic acid probably diminishes as we recede from land; and 2d, that the same air contains muriates in greater or lesser quantities.—*Edinburgh Philosophical Journal, No.* 12.

QUARTERLY INTELLIGENCE.

FOREIGN.

ANATOMY AND PHYSIOLOGY.

Case in which no Division existed between the Ventricles of the Heart.—A case of this kind is related by Dr. Wittchke, in Hufeland and Osann's Journal for April, 1828.

The patient was twenty-four years of age; had from his infancy been affected with a peculiar palpitation of the heart, unattended by any other symptom of disease. Five years ago, after an inflammation of the chest, the palpitation augmented in violence; he appeared sometimes to be in danger of suffocation. The palpitation and sense of suffocation abated when he sat upright, and pressed his breast firmly against any hard body. Medical treatment rendered him no relief; the occurrence of hemorrhoids appeared, however, in some measure to render his sufferings more tolerable. Finally, the accessions of suffocation became more violent, particularly at night; the only position in which the patient could find any ease was sitting upright. By degrees œdema of the feet showed itself, and extended to the legs; at length the abdomen became distended from effusion, and the scrotum was swollen to a great extent. His countenance was livid, swollen, and of a doughy appearance. The upper extremities presented the same phenomena.

He was first visited by Dr. W. on the 17th of November, 1825; he found him lying in bed, with his head and shoulders greatly elevated, and unable to rise. The preceding night he had suffered a very severe attack of suffocation; for fear of a return of which, he begged, with tears in his eyes, that the doctor, by puncturing the abdomen, would relieve him of the load of water which it contained, and thus enable him to assume the erect posture. His carotids throbbed violently; the heart beat with such force that the whole of the left side of the chest was shook by its action. The motions of the chest were distinct, commencing above and extending downwards. The pulse was regular, somewhat tense, and moderately full, ninety in a minute. The respiration was rattling, as though some obstruction existed in the trachea. The patient could speak only with great difficulty; the tone of the voice was hoarse and low. The body presented all the symptoms of extensive general dropsy. Appetite and digestion not particularly affected; the tongue very

red and clean; great thirst; the skin had the feel of dry parchment. The skin on the fore part of the scrotum, being irritated by the passage of the urine over it, presented an erysipelatous appearance; as also did the calves of the legs. The patient complained of considerable pain of the left thigh.

Notwithstanding the dropsy was to be viewed as an effect of disease of the heart, under which the patient evidently labored, yet, with a view of mitigating his sufferings, as well as to take off the extreme tension of the skin, from which gangrene was to be feared, Dr. W. punctured the abdomen. Though but a small quantity of fluid was discharged, the patient felt somewhat relieved. Diuretics were directed internally; and, externally, tepid poultices, with acetate of lead and laudanum, to the left inferior extremity.

Next day, near six quarts of water discharged by the puncture; the patient much relieved; had a quiet night. Poultices exchanged for a decoction of chamomile flowers, with acetate of lead and laudanum. Seltzer water to allay the thirst.

On the ensuing day, symptoms the same. Diuretics continued.

On both of the two following days, bowels evacuated; pain of left thigh increased, with redness. Chamomile decoctions discontinued, and a decoction of oak bark, with the same additions, directed.

On the 22d of the month, dropsical symptoms considerably abated; palpitation of the heart much diminished; the patient could stand without assistance, and sat up the greater part of the day in an arm chair.

On the 25th, frequent watery stools, weakness, the pulse more frequent and strong. Diuretics discontinued, and frictions to the abdomen of spirit. terebinth. and camph. united by the yolk of an egg.

From this time the patient rapidly declined in strength. On the 29th, gangrene of the left thigh. On the 30th, the patient died.

Sectio cadaveris. The thorax only examined; it contained about a pint of bloody serum. Lungs healthy, but pressed backwards, in consequence of the augmented size of the heart; they were not greatly distended with blood, and nowhere adhered to the pleura. The pericardium adhered completely to the surface of the heart, with the exception of that part which is next the diaphragm, where not a trace of it was discoverable, the heart lying immediately upon the latter. The heart was at least three times its normal size, and filled with a considerable quantity of black half coagulated blood; the parietes of both ventricles being of a thickness proportionate to the augmented bulk of the organs. The most remarkable circumstance was the absence of the septum ventriculorum, of which not a trace remained; notwithstanding which, the openings of the great vessels were entirely natural, excepting that those of the veins were somewhat enlarged; the valves perfect. The auricles, with the exception of their increased size, were also in every respect natural. The aorta arose very straight, and was filled with a fibrous coagulum. The veins were collapsed, and contained a small quantity of fluid blood; this was also the state of all the great

veins of the chest. The ductus arteriosus was, as usual, entirely closed.—*North American Med. and Surg. Journal.*

Influence of the Male extending beyond a single Impregnation.—"A seven eighths Arabian mare, belonging to the earl of Morton, which had never been bred from before, had a mule by a quagga: subsequently she had three foals by a black Arabian horse. The two first of these are thus described: "They have the character of the Arabian breed as decidedly as can be expected where fifteen sixteenths of the blood are Arabian, and they are fine specimens of that breed; but, both in their color and in the hair of their manes, they have a striking resemblance to the quagga. Their color is bay, marked more or less like the quagga in a darker tint. Both are distinguished by the dark line along the ridge of the back, the dark stripes across the forehand, and the dark bars across the back part of the legs. Both their manes are black; that of the filly is short, stiff, and stands upright; that of the colt is long, but so stiff as to arch upwards, and to hang clear of the sides of the neck; in which circumstance it resembles that of the hybrid. This is the more remarkable, as the manes of the Arabian breed hang lank, and closer to the neck than those of most others."* Mr. Mayo, who quotes this curious fact in his excellent "Outlines of Philosophy," observes, that "a similar occurrence to the preceding is mentioned by Mr. Giles, respecting a litter of pigs, which resembled in color a former litter by a wild boar. The best explanation of these phenomena is to suppose that connexion with the male produces a physical impression, not merely upon the ova which are ripe for impregnation, but upon others, likewise, that are at the time immature. In gallinaceous birds, in turkeys, for instance, it is well known that a single coïtus will actually impregnate all the ova that are laid during the breeding season. The explanation which I have offered seems to me far more reasonable than any supposed influence of the imagination, the effect of which on any occasion, even in human beings, appears more than doubtful."—*Mayo's Physiology, 2d ed.* p. 489.

Influence of Operations on the Neck on the Nutrition of the Eye.—M. Mayer has experimented for this purpose on several domestic animals. When the great sympathetic was tied in the neck, it occasioned some disorder in the nutrition of the eye on the same side, manifested by inflammation of the conjunctiva. Injury of the nervus vagus is often followed by the same effect. When both the vagus and sympathetic are tied, the effect is more manifest, and the inflammation extends to the interior of the globe of the eye.

When one carotid is tied, not much effect is produced; but, if both are secured, the eyes always suffer more or less, they lose their brightness and their vital turgescence; however, it rarely happens that complete disorganization ensues.

But, if the vagus, great sympathetic, and carotid are included in

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* Philos. Trans. 1821, p. 21.

the ligature, an exudation of plastic lymph takes place on the anterior surface of the iris; this new product, which is membranous, completely closes the pupil. In time, suppuration of the cornea and staphyloma are observed.—*Bulletin.*

On the Functions of Different Parts of the Ear.—Dr. Charles L. Esser, in a work crowned in 1825 by the medical faculty of the university of Bonn, has been led, by numerous experiments, to the following conclusions:

The *cartilage of the external ear* seems to contribute little to rendering sounds more clear, but seems to augment their force not only by reflecting into the auditive canal a part of the sonorous rays, especially those that fall into the concha, but also by means of vibration which the sonorous rays produce in it, and which it transmits to the tympanum.

The *bones of the head* contribute no less than the cartilage to the propagation of sounds. This propagation does not depend solely on the nerves, as was thought by Treviranus, Swan, &c.; for a watch applied to a swelled cheek ought to produce sounds as clear through the medium of the fascial nerve as if applied on the zygomatic arch, which is not the case. The os occipitis is better fitted for propagation of sounds than the bones of anterior parts of the head, which depends on its connexion with the labyrinth, and its nearness to the mastoidal cells. The use of these cells is not to prevent an echo in the internal ear, as M. Treviranus supposed; that function devolves solely on the eustachian tube. In many animals, the bones that surround the external ear are disposed so as to favor, in a high degree, the transmission of sounds, and they offer compensation for the absence of an external ear.

The external auditory canal is evidently the part which contributes most to the concentration and transmission of sounds to the membrana tympani.

The membrana tympani is made to vibrate by the sonorous rays that reach it; nevertheless, this is not the only use of the membrane, for the sonorous vibrations not only may reach the ear without the aid of the membrana tympani, but may even reach it with greater strength. It serves to protect the ear from external injuries.

The eustachian tube is the chief auxiliary to the membrana tympani, and fulfils four different functions.

1. It allows the air contained in the cavity of the tympanum to be in a state of equilibrium with the external air. If this equilibrium be lost, certain anomalous sensations are experienced, such as tinkling and buzzing of the ears. If the quantity of air in the cavity is augmented by strong expirations, then too strong a pressure on the membrane of the tympanum takes place, as well as on the other parts of the cavity, particularly the foramen rotundum; this pressure produces buzzing, which decreases in proportion as the atmospheric equilibrium is restored through the eustachian tube. If the air of the cavity becomes rarified, and the eustachian tube closed by spasm, then the external air pressing on the membrane finds its

way through the pores of that organ, and thus produces the tinkling of the ears.

Both these phenomena disappear as soon as the equilibrium is restored in the cavity, and this may be effected by forcing the air along the eustachian tube by breathing with the nose and mouth closed, or by introducing the end of the little finger deeply into the external meatus, and withdrawing it by degrees, making at the same time pressure against the upper surface of the canal. In this way a vacuum is formed, the membrane is brought back towards the external meatus, and the eustachian tube gives passage to the air that presses into it from the fauces. This explanation manifestly can only apply to the occasional occurrences of buzzing, &c. Chronic examples of these affections depend on cerebral congestions or anomalous actions of the nerves.

2. The second function of the eustachian tube is to admit of the occurrence of vibrations in the cavity of the tympanum, which could not be the case if it were entirely closed.

In cases of deafness occasioned by obliteration of the eustachian tube, perforation of the membrane becomes a means of cure, by reestablishing the communication with the external air.

The idea that the sides of the tube are constantly in contact with each other is incorrect.

3. The tube prevents confused vibrations of the air of the cavity, by giving them a passage outwards.

4. Finally, it serves to lead into the posterior nares the mucus secreted into the cavity and on its own surface.

The *small bones of the ear*, by means of their muscles, are capable of rendering the tympanum more or less tense; but it is difficult to conceive why, and how, this effect takes place. Their influence on the sense of hearing is not very remarkable. They serve to transmit the sonorous vibrations of the membrana tympani to the foramen ovale, although this is not their sole use.

The *labyrinth*, whose anatomical history is sufficiently understood, is still, and will probably continue to be, the obscurest part of the apparatus of hearing, as relates to its physiology. The experiments of Weber leave it a doubtful question whether the lymph of Cotugni exists during life, or is a production occasioned by the death of the animal.

The *vestibule*, or the membranous bags which represent it in certain animals, and the semicircular canals, appear to contribute most to the sense of hearing, but it is difficult to say in what manner. Some facts in comparative anatomy seem to show that the principal use of the semicircular canals consist in strengthening the sounds. They are larger in animals whose external ear is less favorably formed or wholly wanting. Large semicircular canals are generally accompanied with a small cochlea, and *vice versâ*.

The *cochlea* appears to be of less importance than the semicircular canals; for it soon disappears in the descending scale of animals, and birds only possess a rudiment of it. Its use appears to be, to offer a large surface to the sonorous vibrations, and to strengthen by concentrating them.

The act of distinguishing different objects is a purely intellectual function, which we must not seek for in any particular parts of an organ of sense. This power has been supposed to reside in the cochlea; but if its development was in every case to be regarded as a measure of this distinguishing power, the following order might be established: The cabais and porcupine, whose cochlea has three turns and a half; the dog and fox, with three turns; man, the cow, the hog, and cat, with two and a half turns; the horse, and the dolphin, with two and a quarter; and the hare with two turns. Birds would occupy the lowest rank in this series. Such facts need no comments.

The part which the *acoustic nerve* plays in the sense of hearing is undoubtedly of great importance, but its manner of acting will always remain an impenetrable mystery.

The author of this interesting memoir finally arrives at the conclusion that all parts of the auditory apparatus concur in the act of sensation; but the sense of hearing itself is not explicable by means of these parts, for, like all the other senses, this is purely intellectual. The soul alone sees and hears, the rest is both blind and deaf.—*Ibid.*

On the Capacity of the Lungs in the healthy and diseased state.—The statements of physiologists differ materially as to the mean capacity of the lungs. Passing over the earlier experimentalists, we find that, according to the experiments of *Jurin*, at each natural expiration 40 cubic inches are discharged, and by a violent expiration 220 inches: that according to *Goodwin*, after a complete expiration 109 cubic inches on an average remain in the lungs, while a natural inspiration introduces only 14 inches more: that *Menzies* procured for each natural inspiration 40 cubic inches, for each forced inspiration 200 inches: that *Abernethy* estimates each natural inspiration no higher than 12 inches: that *Kite* estimates a natural inspiration at 17 inches, a forcible inspiration after a forcible expiration at 200, and the air remaining in the lungs after a forcible expiration at 87 inches: that *Jurine* admits 20 inches, and Delametherie only from 4 to 6 as the amount of a natural inspiration: that according to *sir H. Davy* 41 inches are contained in the chest after a forcible expiration, 118 after a natural expiration, 13 more after a natural inspiration, and 254 after a violent inspiration: that according to *Bostock* 280 inches are contained after a natural expiration, 40 are added by a natural inspiration, and if we add 90 more for a forcible inspiration, the lungs will contain 410 cubic inches: that *Cavallo* adopts 30 cubic inches as the amount of air inspired during natural respiration, when this is performed eleven or twelve times in a minute: and that *Abilgaard* estimates a natural inspiration so low as 3 inches. Of these extraordinary discrepancies, some must have been produced by errors of observation or faulty instruments of measurement. But it is probable that many of the differences have also depended on differences in the subjects of experiment. Independently of the obvious differences of stature and size of chest, a considerable difference, in all proba-

bility, exists according to the relative rate of the breathing in different individuals, which, even in healthy subjects, varies from eleven or twelve to twenty-four, or even twenty-six in a minute.

This subject has been lately taken up by Dr. Herbst of Göttingen, who, in a journal quoted above, gives a detail of the researches of all his predecessors, and of a numerous set of experiments which he has himself performed, apparently with great care. The instrument he prefers, on account of its simplicity and the ease with which it may be managed, is a variety of that employed by Dr. Kentish, being simply a graduated glass bell-jar, capable of holding 367 cubic inches, (French measure,) standing in a vessel of water, and having at its summit a wide tube and stop-cock, to which was attached a glass tube of the shape of a horizontal S (ᔓ.) When an unpractised person attempted to breathe in an easy manner out of this jar, the gravity of the water which rose into the jar to supply the place of the air withdrawn, rendered his inspirations shorter than natural. This was soon made manifest by his requiring to take a long breath after several such inspirations. By practice, however, the various individuals whom Dr. Herbst subjected to experiment easily acquired the power of breathing from the jar exactly as in the open air, so that after many inspirations no uneasiness was felt. Besides, the accuracy of the results was always verified by subsequently causing them to make an equal number of expirations into the jar previously filled with water.

By observing all the requisite precautions, very uniform results were procured under similar circumstances. The quantity of air inhaled during easy breathing was found to be, in unusually short people, from 16 to 18 cubic inches, and in those of ordinary stature from 20 to 25 inches. Menzies's estimate of 40 inches was found to be such as no man could maintain for a short while without effort and uneasiness.

The extreme capacity of inspiration and expiration differed very much in different individuals. A healthy man, 22 years old, five feet ten inches tall, and of moderate strength, after a full expiration, inspired 184 inches, after a full inspiration expired 180. A delicate young man, 19 years old, could not inhale more than 90 inches after the fullest expiration. A stout lad of 16, and five feet two inches tall, expired after a full inspiration 160 inches. A little man, 22 years old, and of the same stature, expired 144 inches. A little Jew of the same age only 120. Fat men had commonly less capacity of lungs than others; two stout, healthy, fat men, one 27 and the other 30 years old, could not exceed 140. The greatest capacities which Dr. Herbst had occasion to notice, were 232 and 244 cubic inches; the former was the expiration of a powerful young man, six feet tall, the latter of a very powerful broad chested man of middle stature. The effect of tight clothes in diminishing the capacity of inspiration is very striking: A middle sized man, 20 years old, after a natural expiration inspired 80 inches when dressed, 106 when his tight dress was loosened; after a full expiration he inspired 126 inches dressed, 186 undressed. Another young

man 21 years old, five feet eight inches tall, and of stout make, after a natural expiration inhaled while dressed 50, when undressed 96 inches, and after a full expiration 130 in the former case, 190 in the latter. In women the capacity of the lungs is much inferior to that of men. A girl 18 years old, and of middle strength, expired 106 inches after a full inspiration; another 19 years old 120 inches, and stout women about 30 expired from 130 to 144. It is probable that after a full forcible expiration, very little air remains in the lungs. From several experiments made on the bodies of healthy men who had died in consequence of severe injuries, Dr. Herbst found that the lungs, when distended as far as possible, without tearing them, never held more than 186 cubic inches.

A remarkable fact is that, in proportion to their weight, the lower animals have much more capacious lungs than man. The capacity of the lungs in grown up cats is from 20 to 24 cubic inches; that of a terrier twelve pounds in weight, was 38 inches; that of a mastiff thirty-five pounds in weight 90 inches. Their relative capacity in different men appears *cæteris paribus* to bear a constant ratio to the bodily strength; and this enormous proportional increase in the lower animals is evidently closely connected with the same circumstance.

In diseases of the chest, the capacity of the lungs is very much diminished. A pretty tall young man, affected for some time with palpitation, difficult breathing, cough, and soreness in the breast, could inspire after an ordinary expiration only 30, after a full expiration only 90 inches; a man 44 years old, and of middle stature, who had been long liable to *angina pectoris*, could inhale after a forcible expiration 96 inches; a man 36 years of age, who had all the symptoms of confirmed phthisis, could inhale only 42 inches; a young woman, short in stature, and recovering partially from phthisical symptoms, could inhale 46 inches after a full expiration, 26 after an ordinary expiration.—*Archiv für Anatomie und Physiologie, No.* 1. 1828.

On the Action of the Arteries in the Arterial Circulation.—In the original communications of the present number of this Journal, is inserted a full analysis of a very valuable physiological paper, by M. Poiseuille, a graduate of Paris, on the force of the aortic or left side of the heart. By a series of well devised and apparently accurate experiments, the author arrived at the unexpected result, that the force of the blood in the arteries will support a column of mercury of the same height with whatever part of the course of the arterial circulation the column is placed in connexion—whether, for example, it is connected with the origin of the carotid, or with a branch derived by repeated subdivision from the crural artery. And, consequently, he concludes that the force with which a molecule of blood moves, is the same throughout the whole arterial circulation. Following out these researches, he proceeds (in a paper, the subject of which is given as the title of the present article of intelligence) to enquire in what manner the original impulse communicated by the heart, is transmitted unimpaired to distant parts

of the circulation, notwithstanding the retarding tendency of friction, and the yielding of the parietes of the vessels.

His first object here was to ascertain whether the arteries are dilated by the stroke of the heart and impulse communicated to the blood, and what the amount of the dilatation may be. It is well known that, by most physiologists, a very extravagant idea used to be entertained of the amount of their dilatation; on the other hand, that the later researches of Parry, and other experimentalists, have assigned exceedingly narrow limits to it; nay, that by one eminent physiologist, Bichat, it has been denied altogether. M. Poiseuille has determined the point by means of a very satisfactory set of experiments with an apparatus of his own invention, and has ascertained that dilatation is effected, but that it is so small as certainly to be undistinguishable in an artery by the unaided senses. This apparatus cannot be thoroughly described without a diagram; it will be sufficient, therefore, for us to mention, that it is so contrived, as to contain about eight inches of the carotid artery of the horse in a vessel filled with water, and made water tight, except at one point from which a small horizontal glass tube issues, about an eighth of an inch in diameter. At each contraction of the animal's heart, it was found that the water in this small tube advanced two inches and eight tenths, and that it retired to its former place during the diastole of the heart. The diameter of the artery was seven twentieths of an inch. Hence it may be calculated that at each pulsation its capacity was increased by about a thirtieth part.

Having ascertained this fact, M. Poiseuille goes on to enquire, whether the power which is expended by the blood in causing this dilatation is restored by the subsequent contraction of the artery. For this purpose a portion of the common carotid artery of the horse ten inches long, and seven twentieths of an inch in diameter, taken immediately after death, was connected with the end A, of such a tube as is represented in page 30 of this Journal, a stopcock, however, being previously fitted between A and B. The other end of the artery was fixed on a tube of analogous construction, different in fact only in so far as the limb C D was inclined at about half a right angle instead of being vertical, and the stopcock was placed near the end D. The whole of the first tube, the artery and part of the descending limb B C of the second tube, was filled with water, a little mercury then filled the curvature of the second tube, and the ascending inclined limb of that tube above the mercury was filled with water. The stopcock of the last tube being closed, and that on the first tube being opened, mercury was poured into the former by its end D, till the pressure on the artery amounted to ninety-five millimetres, or about 3.8 inches. The stopcock of the first tube was then closed, and that on the second tube was opened; upon which the water rose instantaneously in the latter, a portion flowed out at the top, and the remainder then sank a little, and assumed a fixed level. On making the necessary computations, M. Poiseuille found that the point to which the mercury was raised in the second tube at the moment of the contraction of the artery indicated an elevation of 110 millimetres, or 4.4 inches. Hence *the power*

with which the arterial coats contract upon themselves after being dilated exceeds that which is expended in dilating them. In the present experiment, the excess was equivalent to six tenths of an inch of mercury, or three nineteenths more than the dilating force. In three other experiments, the excess of the column of mercury was nine twentieths, fourteen twentieths, nineteen twentieths of an inch. When repeated with the artery of an animal which had been killed four days before, the excess was less than four twentieths. It is evident, therefore, that whatever force the blood, after issuing from the heart, loses in consequence of its acting on yielding vessels, is completely restored by the elastic contraction of their parietes.—*Journal de Physiologie Janvier*, 1829.

PATHOLOGY.

Anatomical and Physiological Researches on Emphysema of the Lungs.—Pathologists, in examining bodies after death, have been accustomed to suppose that the lungs are in a healthy state, when they crepitate on being handled, and the air cells are regular and not of unusual size. M. Piedagnel, in a paper contained in Magendie's Journal, undertakes to prove, on the contrary, that the lungs are never healthy when they crepitate; that they never crepitate except when affected with general or partial emphysema; and consequently that emphysema of the lungs is an exceedingly common disorder, being in fact produced at the close of very many diseases by the dying efforts of the patient to maintain respiration. If, says he, the chest of a dog that has recently died without making violent respiratory efforts be opened, the lungs contract very much, and when taken out and handled or cut, they feel soft, flaccid, and totally destitute of crepitation. If again the same experiment be made on the chest of an infant that has only lived a few hours, and the lungs are gently and not too much inflated, they contract in like manner to a great extent, and do not crepitate when squeezed between the fingers. Or if the experiment be tried with the lungs of an adult who has died without a concluding stage of agony, and not of a disease of the organs of respiration, it will likewise be found that the contracted lung is soft, more or less flaccid, destitute of crepitation when gently pressed or when cut into. Such, then, he concludes, must be the natural condition of the lungs. But if the lungs of an animal, a child, or an adult, such as we have described, be inflated artificially with considerable force, they do not afterwards sink so completely, they are much more elastic, and they crepitate when handled or cut. Since crepitation does not exist in their natural state, and may thus be produced at will, it must always be a morbid phenomenon when it takes place spontaneously. And on considering the circumstances under which it is produced, we must come, continues M. Piedagnel, to the conclusion, that it arises from the rupture of the air cells, and the passage of air into the cellular tissue between them. In the dead lung, crepitation is

caused by forcible distension from the trachea, and also very effectually by blowing air into a hole in the pleura; the obvious effect of which must be to distend the cellular tissue. Accordingly in the frog, in which the air cells are large, and the cellular tissue very scanty, the lungs cannot be made to crepitate by artificial distension. Towards the close of life, it is caused by every form of disease which terminates in laborious breathing. Hence it is met with in all cases of violent and prolonged death, in every acute disease which terminates in long painful agony, and in all affections of the lungs or brain, which cause obstruction of the breathing. In such circumstances it will be remarked, that respiration consists in a sudden deep inspiration followed by closure of the glottis, and a gradual expiration, during which, in consequence of the difficulty the air experiences in passing through the glottis, it is subjected to pressure on the lungs. On the contrary, the lungs are seldom found to crepitate in chronic diseases which have had a long course, and brought the patient by insensible steps to the tomb. In particular, they seldom crepitate after death from cancerous affections of the abdomen.

Since emphysema, then, is a derangement of structure so common and so easily produced in the last moments of existence, may it not also arise, adds the author, in other circumstances where its immediate cause is less evident? And may we not thus explain many of the alleged cases of sudden death, which happen not unfrequently in hospitals, without any morbid appearances being detected in the dead body to account for it? The two following examples are quoted in confirmation of this conjecture. A man, thirty-six years of age, and of sound constitution, was admitted into the hospital of St. Antoine, on account of pains in the abdomen and slight pulmonary catarrh consequent on suppression of a hemorrhoidal discharge. After being a few days in the hospital, he was getting the better of his trifling ailments, when he began to complain of obstructed breathing, and a sense of weight in the epigastrium, which prevented him from taking a full breath. As his pulse was frequent, venesection was ordered; but before it could be performed, he died. On examining the body, the inspector could find no diseased appearance worthy of note, except that the lungs were voluminous, filled the whole chest, and crepitated strongly. Another man, sixty-one years of age, and in general healthy, but liable for three years before to occasional pulmonary catarrh, was admitted into the same hospital on account of violent cough with copious mucous expectoration, and mucous rale; but his breathing was natural. Three days after his admission, he also complained of impeded respiration; and next morning he was found dead in bed. When the body was examined, it was considered that every organ, and among the rest, the lungs, were sound. The lungs, however, says M. Piedagnel, were crepitating and full of air, filled completely both sides of the chest, and on the left side were indented by the ribs, whence he had no difficulty in concluding that the patient had died from the sudden infiltration of air into the pulmonary cellular tissue.

Another practical inference which may be drawn from his researches is, that in supporting the breathing by artificial inflation of

the lungs, care must be taken not to inflate the chest with too great force. This caution was suggested not long ago by M. Leroy d'Etiolle, in consequence of experiments on living animals of a nature parallel with those performed by M. Piedagnel after death. But it may nevertheless be useful to see what the latter enquirer has to say on the subject. He informs us that in 1826 he delivered a lady of a stillborn child, which he endeavored to bring to life by artificial inflation of the lungs, but without avail. On examining the body, he could not discover any obvious cause of death, but the lungs were strongly emphysematous. He was therefore led to conceive that the emphysema had been caused by the inflation, and that thus a fresh cause of death had been unwarily added to that which already existed. On subsequently making some experiments on living animals he arrived at the same results as M. Leroy d'Etiolle. Sudden inflation caused immediate embarrassment of the respiration, proving speedily fatal; and he found in the dead body the lungs pale and emphysematous.

He further remarks, that pulmonary emphysema has appeared to him to be the cause of death in those extraordinary cases of sudden death, which have taken place during operations at the root of the neck, from the passage of air into the veins. In two melancholy instances which happened at Paris of sudden death from that cause, during the removal of a firm cellulo-fibrous tumor from the neighborhood of the clavicle, one of which has been recorded in Magendie's Journal, vol 1st, and the other in the 3d vol. of the *Archives Générales de Médecine*, M. Piedagnel says the most striking appearance was emphysema of the lungs marked by crepitation and the want of subsidence of the lungs. Death in such cases has been usually ascribed to the air entering the heart in such quantity as to deprive that organ of a due quantity of its proper stimulus; by others it has been ascribed to the air entering the brain in the arterial blood; but the author appears to us to give a more satisfactory explanation of the accident.

He is disposed to dissent from Laennec as to the possibility of mere dilatation of the air cells of the lungs being accompanied with the symptoms of emphysema, and maintains that such a state of the lungs has been found in the bodies of persons who did not labor under any impediment of the breathing, and that in those who have had such symptoms there is always found, besides enlargement of air cells, effusion of air into the cellular tissue around them, the effect, he supposes, of rupture of the air cells at the time the breathing first becomes materially disturbed.—*Jour. de Physiol.*

Case of Double Uterus and Vagina in the Human Subject.—On the 14th November, 1827, a woman was brought into the Hôtel Dieu, about 65 years of age, named Raley. She had been found on the floor of her room in a state of insensibility, and bathed in blood, which she had vomited. A few hours after her admission to the hospital, she expired.

On opening the body, the stomach, and the whole intestinal canal were found filled with black coagulated bload, but without any ap-

parent breach of surface. After having carefully examined all the viscera and the vessels, which were quite empty, pale, and colorless, M. Jolly, on looking at the uterus, was surprized at the very small size of that organ. On putting the finger into the vagina, he found a membranous division, which separated that canal into two equal parts. After examining the attachments of the uterus, which were in all respects natural, he removed the rectum and bladder, together with the genital organs, which he inspected with MM. Dance and Dalmas. The external organs presented no extraordinary appearance; the entrance to the vagina was narrow and smooth, without any traces of ruptured membrane, and divided by a partition into a left and right portion of equal size; the length of the canal was four inches. The portion, half a line in breadth, was formed by the apposition of the mucous membranes; interiorly there was nothing remarkable but the smallness of its transverse diameter. The uterus presented no other remarkable feature exteriorly but its small size; it was not more than eighteen lines across; its upper external edge showed a slight depression, which divided the organ into two cavities; from the middle of this depression, a longitudinal grove ran along the whole anterior surface of the uterus and vagina. A lateral section from the neck of the uterus, prolonged along its body, exhibited the one cavity without any communication with the opposite side, both inferiorly and superiorly. The cavity of the neck was very narrow, scarcely admitting an ordinary probe, about three or four lines in length, and equally separated by a partition; it terminated by a circular orifice, without any trace of irregularity. This orifice was situated in the centre of the neck, which, embraced by the vagina of that side, formed a projection at the upper part of that canal. The partition which ran along the body and neck of the uterus and vagina had the same organization and thickness as the parietes of the uterus.

At each superior angle of the body of that viscus, at the point where the fallopian tubes ought to be inserted, and instead of them, there was found an appendix, a real uterine horn, eighteen or twenty lines in length, cylindrical in shape, as large as the little finger where it was inserted in the uterus, swelling out in the middle, and suddenly becoming fine where it terminated in the fallopian tube.

This horn, placed horizontally at the upper part of the broad ligament, presented an oval shaped cavity, three lines in diameter, smooth, and even like that of the uterus, communicating freely with its cavity, and also communicating freely at its smaller end with that of the fallopian tube; its parietes, two lines in thickness, had the same structure as the uterus. Neither the fallopian tube nor the ovaries offered any thing remarkable.—*Jour. Hebdomad.*

Dilatation of the Aorta—Hypertrophy and Dilatation of the Heart—Disease of the Aortic Valves.—Lindsay Corstairs, aged 61, a printer, emaciated, but tall and of athletic conformation, complains of most distressing dyspnœa, worst in the night, induced by stooping or the slightest exertion, and sometimes supervening spontaneously.

During the paroxysm, the inspiration is sibilous, and the respiration so frequent and laborious as to throw all the auxiliary muscles of the neck and shoulder into vehement action. The countenance is at first universally flushed, in a minute or two it becomes deadly pale, and finally livid. The jugular veins swell and pulsate violently. The heart palpitates, and, with a powerful and profound succession, visibly shakes the whole chest and epigastrium. He is disturbed by frightful dreams, and starts from sleep in a paroxysm of gasping palpitation; somnolency is so oppressive, that he sometimes sleeps erect on a stool during a stethoscopic examination. Throbbing pain in the head, particularly in front; tinnitus; indolence, both mental and corporeal. Frequent cough, with copious expectoration of viscid, ropy mucus.

Œdema of the feet and scantiness of urine, of a week's standing only. Pulse 96, and extremely strong; appetite and digestion good; bowels costive.

His complaint commenced a year ago, and was at that time speedily relieved by venesection and purgatives. It recurred twice, at intervals of two months, and each time yielded, but with increasing difficulty, to the same remedies.

Stethoscopic exploration. Resonance, on percussion of the præcordial region, is deficient.

Impulse of the heart is perceptible over the whole anterior surface of the chest; but it is strongest on the left of the mesial line. Below the left nipple it is venement; on the lower third of the sternum it is more languid, though still preternaturally violent. Between the spine and the left scapula, a deep seated movement is perceptible by the cylinder.

Sound of both ventricles is morbidly loud, and it is produced into the auricular sound, so as to leave little interval of repose. The sound of the left ventricle, explored below the nipple, is louder than that of the right, at the inferior part of the sternum. This is referable to a loud bellows sound accompanying the systole of the left ventricle; it is less audible on the right side of the chest than on the left, and immediately below the left clavicle, it is louder and more hoarse than in the vicinity of the left ventricle. In every situation a double sound is heard; but the second, which is that of the auricles, becomes more distinct in proportion as it is explored nearer the heart.

The carotid arteries pulsate violently, and above the sternal extremities of the clavicles a remarkably strong impulse, with a peculiar vibration, which M. Laennec has aptly compared to cat's purring, is felt on application of the fingers. The stethoscope transmits a hoarse sound, like that of rasping wood, much louder and more abrupt than the bellows sound in the præcordial region.

Respiration is in some parts puerile, but in other respects natural.

Diagnosis. Disease of the valves; great hypertrophy, and dilatation of the left ventricle; dilatation of the right ventricle, with a less degree of hypertrophy; congestion of the lungs, without alteration of structure.

Prognosis. Death. He died four months after admission, the

treatment having consisted in occasional sparing venesections, aperients, fœtid antispasmodics, and rest.

Necrotomy. The heart was more than double its natural size.

Right ventricle was dilated to the size of a lemon: its thickness at the base was about four lines; at the apex, about two or three. The columnæ carneæ were remarkably large. The valves of the right side were small.

Left ventricle. The parietes were about an inch thick at the base, and half an inch at the apex. The cavity was larger than that of the right ventricle. The mitral valve was natural; but the bases of the aortic valves were converted into dense fibro-cartilage, and formed a rigid ring encircling the orifice. The loose margins of the valves, and particularly the corpora sesamoidea, exhibited the same morbid appearance; and the intermediate membrane was studded with patches of a dark red substance, resembling muscular fibre.

Aorta. The ascending portion and the arch were double their natural size. The internal membrane was converted into a thick, knotted, and striated substance, of intense brown-lake color, presenting the appearance of coarse muscular fibre; bedded in it, there were a few scales of rigid, but not osseous, deposition.

Lungs were gorged with blood and serum, but they had not sustained any change of structure.

In this case I did not foresee dilatation of the aorta; for, as this was the first instance in which its physical signs had attracted my attention, I was totally unconscious that they were characteristic of the disease. However, the pulsation, the purring tremor, and the peculiarly abrupt, hoarse, rasping sound, excited my curiosity, and induced me to make particular notes, with the view of ascertaining, by post mortem examination, on what causes the phenomena depended.

In the diagnosis appear the words 'dilatation of the right ventricle, with a less degree of hypertrophy.' It might be objected that there was no hypertrophy of the right ventricle, as its parietes were not appreciably thickened; it therefore did not answer to the definition of hypertrophy given by Laennec, and of active aneurism by Corvisart.

But, when there is amplification of a cavity, without extenuation of its parietes, there must necessarily be an augmentation of muscular substance. This, therefore, is essentially hypertrophy, and it produces the symptoms of that affection, rather than than those of 'simple dilatation,' or 'passive aneurism.'* In the present instance, the action of the ventricle in question was morbidly increased; this, however, might have been partly owing to the great enlargement of the columnæ carneæ.—*London Medical Gazette.*

Dilatation of the Arch of the Aorta, of the Carotids, and of the Heart—Disease of the Valves.—Henry Stewart, aged 48, many

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* The first term is employed by Laennec, and the second by Corvisart, to indicate the same condition.

years a sailor. In 1815 he became a hewer in a stone quarry. A year previous to admission, after an uninterrupted course of good health, he was seized, in consequence of exposure to cold, with a severe cough and copious expectoration of foul mucus.

He states, that six weeks afterwards, while walking, his respiration was suddenly suspended, and he fell down, deprived of consciousness and the power of articulation. On recovering from the attack half an hour afterwards, he found himself affected with a severe pain in the epigastrium and abdomen. This was speedily relieved by antiphlogistic remedies, but it left dyspnœa, palpitation, and cough, which daily increased, and were exasperated into a paroxysm by the slightest exertion. These symptoms continue, and, in addition, he has almost universal dropsy, scanty and high colored urine, great somnolency, and frightful dreams, from which he suddenly awakes in a fit of palpitation and dyspnœa. The cheeks exhibit a vivid circumscribed redness, which is converted into lividity during a paroxysm. Turgescence, but no appreciable pulsation of the jugulars; pulse 90, full and bounding; acidity, and sometimes vomiting; great debility; no dysphagia nor pain in the chest.

Stethoscopic exploration. Above the sternal end of each clavicle there is a strong pulsation, extending with diminished force to the angles of the jaws: it is not perceptible immediately below the clavicles, or on the sternum.

The carotids, when grasped by the fingers, seem to be enlarged. A remarkably strong 'purring tremor' accompanies the pulsation above the clavicles, and the cylinder transmits a hoarse, abrupt, rasping sound, synchronous with the pulse. This sound, heard below the clavicles, seems softened and obscured by distance, and towards the third rib it becomes so faint as to be absorbed by the sound of the ventricles, which progressively increases as the auscultator approximates towards the præcordial region. Immediately after this sound, a second is heard; above the clavicles it is obscure, but it gradually becomes more distinct on drawing nearer to the heart, and is finally recognized to be the auricular sound.

Between the left scapula and the spine, a single, hoarse, abrupt, rasping sound is distinctly heard.

The left ventricular sound consists of a loud bellows murmur, combined with a peculiar sibilus, and it is prolonged into the auricular sound. The latter has the character of the natural ventricular sound, and it is continued into the bellows murmur which succeeds it.

The right ventricular sound is clearer than natural, and the auricular has much bellows sound. Both are louder than on the opposite side.

The impulse of the heart does not sensibly elevate the thoracic parietes, but it communicates to the chest a succussion stronger and more extensive than natural, being perceptible in the epigastrium, and below the seventh ribs, especially on the left side. Over a corresponding extent, resonance, on percussion, is deficient.

Respiration is in parts puerile, but otherwise natural.

Diagnosis. Dilatation of the aorta and of the carotids. Dilata-

tion of the heart; thickness of its parietes about natural. Disease of the valves. Structure of the lungs sound.

Prognosis. Death speedily. He died three weeks afterwards.

Necrotomy. The right ventricle would contain an average lemon. The thickness of the parietes was about natural, but the columnæ carneæ were somewhat enlarged. The valves were sound.

The left ventricle was rather more capacious than the right. The thickness of the parietes was half an inch at the base, and less towards the apex.

The mitral valve was slightly obstructed with cartilage.

The aortic valves were stiff with dense cartilage, and contracted in such a manner as to obstruct, without closing, the orifice.

The ascending aorta and arch were dilated to the capacity of three fingers. The arteria innominata admitted the thumb; and the left carotid equalled the third finger. The origin of each was slightly contracted by a dense rough ring, which encircled it. The internal surface of the aorta was converted, partly into a cartilaginous substance, and partly into one resembling granules of cheese, being soft, friable, and of dingy yellow color. This condition extended to the coeliac artery, and rendered the aorta so lacerable that it was rent asunder in being torn from the spine.

About four pints of serum were found in the cavities of the pleura. The texture of the lungs was sound.—*Ibid.*

Aneurism of the Aorta—Hypertrophy, Dilatation and Diseased Valves of the Heart.—Robert Mackenzie, aged 56, a tailor, is subject to a most distressing dyspnœa, which is excited by every species of exertion, and especially by ascending; occasionally orthopnœa; palpitation, the shock of which extensively shakes the left side of the chest; a harassing cough, with copious mucous expectoration; can only lie comfortably on the right side; his nights are disturbed by frightful dreams; great œdema of the feet; sometimes pains in the abdomen; pulse 108, very strong; bowels open, tongue clean, anorexia.

He states that he has been subject to pains in the abdomen and back for three years, but that the palpitation and dyspnœa are only of two years duration. The feet have been œdematous a week only.

Stethoscopic exploration. Above both clavicles, but especially the left, there is a remarknbly strong pulsation and purring tremor, ascending with diminished force to the angles of the jaws; the pulsation is perceptible below the clavicles, particularly the left, and on the superior part of the sternum; lower down it becomes extinct.

The cylinder applied above the clavicles, transmits a single sound, extremely hoarse and grating, with an abrupt commencement and termination. As the auscultator recedes from the clavicles, in the direction of the heart, it decreases progressively, and is commuted for a duller sound, immediately followed by a second, which gradually increases on approaching the heart, and is finally ascertained to proceed from the auricles. Between both scapulæ and the spine, a single hoarse sound is heard.

Impulse of the heart is extremely violent, and it is perceptible beyond the natural limits. Resonance, on percussion of the præcordial region, is dull.

The sounds of the heart are, in every situation, morbidly loud; and the left ventricular systole is accompanied with some degree of bellows murmur.

Resonance of the chest is good, except in the præcordial region; and the respiratory murmur is in parts puerile, but otherwise natural.

Diagnosis. Aneurism of the arch of the aorta; hypertrophy, and dilatation of the heart; valvular disease on the left side; structure of the lungs sound.

Prognosis. Death within six months. He died in three months, the treatment having consisted of bloodletting, antispasmodics, diuretics, &c.

Necrotomy. The liver was pale, granular, and a little harder than natural. The diaphragm opposite to the heart was convex towards the abdomen, and about three pints of fluid were found in each cavity of the pleura.

The lungs were sound in structure.

The heart was of an immense size, the parietes being enormously thickened, and the cavities greatly dilated. The aortic valves were thicker, and more rigid, than natural.

The aorta, from its origin to the end of the arch, was dilated throughout its whole circumference; and in three parts it bulged still farther into pouches, equalling in size the half of an egg. At the posterior part of the arch, where it begins to descend, there was a fourth pouch of much greater magnitude, and rising with more defined margins. The lining membrane of the aorta was rendered uneven and rugged by a dingy yellow matter, partly diaphanous, like cartilage, and partly opaque, like cheese. The tunics of the pouches were dense, but so extenuated as to be perfectly translucent.

In this case I was led to suspect the existence of aneurism, and not of dilatation alone, by the pulsation being perceptible below the clavicles and on the sternum, parts in which it is never developed by simple dilatation, unless it be enormous.

Purring tremor has invariably appeared to me to be more considerable in simple dilatation, than in sacculated aneurism. In the present instance, as pouches were superadded to dilatation, and to great asperity of the interior surface, the tremor existed in an extreme degree.

The hypertrophy of the heart was manifest from the vehemence of the impulse. The dilatation was indicated by the loudness of the sounds, and by the shock extending far beyond the natural bounds. The latter circumstance is a sign of dilatation, because in the greatest degree of pure hypertrophy* the impulse scarcely ever exceeds the limits of the præcordial region.

The bellows sound indicated the obstruction of the aortic valves.

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* *i. e.* Thickening of the parietes without amplification of the cavity.

I have frequently observed that when this sound has a soft character it is connected with a smooth surface of the diseased valve; and that when it has a harsh, grating, or rasping quality, it proceeds from a scabrous surface, occasioned by osseous deposition.

As there were no marked symptoms of hydrothorax at the time that the exploration was made, and as the hydropic affection did not make great advances until a short time subsequently, there is reason to suppose that the effusion into the chest was posterior to the stethoscopic examination.—*Ibid.*

THEORY AND PRACTICE OF PHYSIC.

Fatal Case of Acute Glanders in the Human Subject. By Andrew Brown, Surgeon.—Glanders, until lately, was generally considered, I believe, a disease exclusively belonging to the horse, the ass, and the mule; but within the last few years several cases have been recorded, which unquestionably show the facility with which it may be communicated to the human subject, by the contact of morbid matter (from either of those animals) with the surface of incised or lacerated wounds: evinced not only by the subsequent inflamed state of the lymphatics, distinctly traced from the part originally inoculated, terminating rapidly in ulceration similar to farcy; but also by the matter taken therefrom possessing a most active power of reproducing this disease in its acute and genuine form. I am not, however, yet acquainted with any authenticated case having heretofore occurred where this truly formidable disease has been communicated to man by other means; either by cutaneous absorption, by effluvium, or by the incautious application of glandered matter to the nasal linings in picking, scratching, or blowing that organ; and should it be admitted that there is even a possibility of introducing this direful malady into the human system by any one of these means, or by a combination of the whole, then the following singularly untoward case may be at least elucidated, if not clearly and fully explained.

Case. Corporal John Wells, aged 38, a tall, well formed, florid complexioned, healthy looking man, originally a laborer, and had been upwards of nineteen years in the corps, during the whole of which lengthened period, he "was never once in the doctor's list," always enjoying the best possible health, until the night of the 16th of April past, when he was suddenly awoke from an unrefreshing sleep by rigors, headache, and slight irritability of stomach; all of which continued unabated when admitted into the hospital next morning—while he complained in addition of severe continued pains and stiffness in all his large joints, which became excessively aggravated on the slightest motion.

I am just informed, "these are the constant precursors when a combination of severe *acute* glanders and farcy first appear in the horse; and in all cases thus ushered in, death *speedily* and inevitably follows."

He labored likewise under great depression of spirits, restlessness, and a general disturbance of all his functions, which he could not possibly refer to any particular cause; but on subsequent enquiry it appeared that he had had sole charge of a glandered horse for some time, which had been destroyed on the very evening of his attack; and that he had skinned him, and exerted himself a good deal in cutting up and burying the carcass. But these circumstances did not then create the least suspicion, and his complaint was considered a very severe case of acute rheumatism, and treated as such.

However, on the morning of the 19th, two days after admission, finding that the severity of his pains increased, under the most active means, and that his constitution was no longer able to bear a continuance of them, Dr. Home and myself became much alarmed, even at this early stage of the disease, in observing its unconquerable virulence and novelty of appearance, forming thereon, in consequence, a very unfavorable prognostic.

From this period the constant and general pain, night and day, became excessive and violent to a degree; but particularly over the left shoulder, which, on examination, showed the scapula slightly tumefied, although not inflamed; but being above the temperature of health, leeches were consequently applied over its entire surface, and it bled profusely for some hours after, without affording the least relief; it shortly after became hard, ecchymosed, and insensible to the touch.

The severity of his sufferings continued unabated, and on the morning of the 24th (seven days after his admission) the tumor over the scapula had assumed a dark livid color, and attained a considerable size, resembling in a strong degree the shoulders of a man recently and severely punished.

Similar tumefactions, but more circumscribed, were now observed on the legs, thighs, arms, and sacrum; and one of considerable magnitude over the left temple, which had already distorted the entire face—the eye being apparently diminished and humory, the lids tumefied, the inferior one with a prominent doubling in it; the conjunctiva pale and infiltrated, as well as the membrana nictitans, and caruncula lachrymalis. The skin and cellular membrane of this tumor, together with those on the extremities, became like that on the scapula—hard, insensible to the touch, and of a dark chocolate color—convincing us that the application of leeches to the original one was not instrumental in the production of the appearance—as we had then supposed. The right nostril was likewise contracted, and gummed with an inspissated discharge; and he complained of constriction of the throat, with difficulty in swallowing cold liquors, but not those previously warmed. On examination, the posterior fauces were found much inflamed, and nearly of the same purple hue as the tumors on the surface: the whole of which observed regular gradations from their commencement; first showing themselves not simultaneously, but in succession, by a slight discolored puffiness of the skin and cellular membrane, generally nearest to the bone. They were next observed, after a lapse of

twelve or fifteen hours, suffused over their entire surface, with a deep vermillion blush, which then changed rapidly into a dark brown, the integuments becoming thick and callous, with fissures, or superficial cracks, from which exuded a thin, acrid, corrosive sanies. These formed their characteristic appearances, without any very material deviation, or producing the slightest mitigation of suffering throughout, which had now become so excruciating as to baffle every effort of art to procure either sleep or rest: not even while in the warm bath has he had a moment's respite from pain.

His thirst, from the beginning, had been great, with a foul parched tongue; his pulse varying from 88 to 96, and full, but easily compressed; and the blood abstracted at the commencement of this disease appeared much attenuated, buffed, and deprived of the coagulating principle. His bowels (constantly attended to) were easily kept free, and his excretions, both urinary and alvine, were always natural in every respect; showing the alimentary canal to be perfectly healthy.

In this state he advanced into the morning of the 28th, his eleventh day under treatment, when several distinct warty pustules, considerably raised above the surface of the skin, were first observed on different parts of the body, very much resembling yaws, but particularly numerous and large over the right side of the neck and shoulders, and on the inside of the arms and thighs.

Several of the tumors already described, but particularly the one over the shoulders, appeared now to be running rapidly into gangrene, which had not been in the slightest degree arrested by the copious exhibition of tonics and antiseptics, and the powers of nature being at length almost exhausted, his pulse scarcely perceptible, his countenance frightfully haggard and livid, his entire surface bathed in a cold clammy sweat, and of a pale leaden hue, we expected every moment to be his last. He, however, held out, in a partial state of somnolency, and a low muttering delirium, until the morning of the 30th, when death released him from his misery, having been twelve days under treatment in the hospital.

Post mortem examination. Eighteen hours after death, the body was inspected by assistant surgeon Dr. Home, and myself, and presented the following appearances:

The entire surface exhibited a most unsightly deformity, with extreme emaciation, being nearly covered by black gangrenous tumors of various sizes, each surrounded by numerous small vesications, about the size of peas, which, with those over the neck, shoulder, arms, and thighs, at first sight resembled the yaw pustule, but on cutting into them they were found to be merely elevations of the cuticle filled with a dark violet colored inspissated lymph.

A strong suspicion having been recently entertained, that the causes and effects of this disease had their origin in glanders, it was considered essential, in the first instance, to have the absorbents of each arm minutely examined, to their termination in the axillary glands, in order fully to ascertain whether it might have been communicated, through their medium, to the system generally.

These vessels, however, as well as the glands, were found in their

natural state; nor was there the slightest appearance of either absorbent, glandular, or cutaneous inflammation; nor any recent cicatrices, chapped or scratched fingers, or, in short, the slightest breach of integument or abrasion of skin, by which absorption of morbid matter could have been facilitated into the system, anywhere discoverable.

The head was next examined; and on removing the scalp in the usual manner from the cranium, and thereby dividing the tumor already specified, we observed, immediately over the left supercilliary ridge, a cluster of tuberculated bodies, of various sizes, imbedded in a lamina of the cellular tissue exterior to the pericranium.

At this stage of the dissection, the presence of our highly talented and much esteemed veterinary surgeon, Mr. Woodman, was solicited; and on his arrival, he unhesitatingly recognized "a strong resemblance between *these* and *those* usually found in the nasal linings of glandered horses after death."

The skullcap was now removed, and discovered the brain much more pale and soft than ordinary, with rather a larger proportion of fluid in the ventricles. But, on removing with the saw that portion of the cranium situated between the orbits, the schniederian membrane lining the frontal sinuses and passages into the interior æthmoid cells, appeared throughout not only pale, thickened, and infiltrated, but in the right frontal sinus was another cluster of what Mr. Woodman considered to be "well defined ulcerated tubercles, and exactly similar in appearance to what we have in the membrane lining the frontal sinuses and other cavities of the head in *acute* glanders in the horse." Although, in this case of ours, the ossæ spongiosæ were free from their presence.

The posterior fauces were next examined, and found highly inflamed, of a dark purple color; and on the surface of the right tonsil there were four or five ulcerated patches of a similar character with the preceding. But neither the thoracic nor abdominal viscera presented any vestige of this formidable disease, all of which appeared perfectly sound, except that the tissues of the heart might be considered rather more pale and flabby than usual.

We now resumed the examination of the trunk, first inspecting a large, hard, cancerlike tumor, spreading backward over the scapular region, and downwards by the serratus and latissimus dorsi muscles, the most prominent part having cracked or separated previous to death, from which exuded a thin, highly fetid, ichorous sanies. And on cutting through this disorganized mass, down to the bone, the muscles appeared perfectly decomposed, and of a dark liver color, (exhaling a peculiarly fetid odor,) with points of purulent matter, as it were, infiltrated everywhere through its entire substance, resembling much a hepatized or tuberculated lung. And on removing the whole of this diseased mass from the bone, the scapula was observed nearly covered by a cluster of gray circular tubercles, the whole composed of fine cellular tissues, enclosed in small cysts, and firmly attached to the periosteum, differing only in this respect from those found on the pericranium.

The other tumors on the sacrum and extremities were all sepa-

rately examined, and exhibited precisely the same character and appearance with those already described—each covering a crop of tubercles adhering to the periosteum underneath, and proportionate in size and consistency to the extent and duration of the tumor.

The muscles generally, even those the most remote from the tumors, appeared blanched and flabby, the fibres softened, and the cellular membrane infiltrated with a yellow serosity. In short, the entire frame was here more or less contaminated.

Having now faithfully, and, I trust, clearly and concisely, detailed the most prominent features in the primary appearances, the progress, and the termination of this violent and extraordinary malady, I shall refrain from offering any opinion of my own, but leave it entirely to the reader to form his own conclusions, from the foregoing details.—*London Medical Gazette*, 1829.

Of some Symptoms in Children erroneously attributed to Congestion of the Brain.—I remember, when a boy, reading a story of two knights errant who arrived on the opposite sides of a pedestal surmounted by a shield; one declared it was gold, the other that it was silver; growing angry, they proceeded to blows, and after a long fight each was thrown on the opposite side of the shield to that where he began to fight—when both immediately detected their error; the knight who had said it was silver finding that on the opposite side it was gold, and the knight who had said it was gold finding that on the opposite side it was silver. This story, a little modified, is a good illustration of the state of medical opinion in this age, perhaps in all ages; medical men have no occasion to tilt, for they all throng on one and the same side of the shield; they look only at the golden side, and never dream of the possibility that on the opposite side it may be of a different metal.

In observing disease, two sets of symptoms may be noticed, which are mixed together in the case, but which require to be discriminated to form a correct opinion of it: the one consists of the striking symptoms, which form what may be called the physiognomy of the disease; the other consists of those symptoms which indicate the morbid state of organization on which the disease depends; the former only are noticed by the common observer, but the latter are the most important, and the skilful physician takes them for his guides in the treatment. "He notices not only where the hour hand of nature's clock points, but also the run of its minute and second hands."

Two patients complain occasionally of dimness of sight, swimming of the head, singing in the ears, and observe that if they turn the head on one side to look at an object, they feel as if they should fall; but the one is plump, florid, and has a full pulse; the other is pale and thin, has cold hands and feet, and a pulse small and feeble. One practitioner bleeds them both; the other bleeds the one, but does all he can to give blood to the other. The latter cures both his patients; the former cures the one, but ruins the health of the other: but such is the nature of the human mind, that the cases *for* a preconceived opinion are retained easier than those *against* it.

He remembers his good deed, forgets the other, or calls the case "anomalous," and marches on, without the slightest doubt that bleeding is the universal and sovereign remedy for dimness of sight, swimming of the head, and singing of the ears, save and except only in "anomalous" cases.

I am anxious to call the attention of medical men to a disorder of children which I find invariably attributed to, and treated as, congestion or inflammation of the brain, but which I am convinced often depends on, or is connected with, the opposite state of circulation. It is chiefly indicated by heaviness of the head, and drowsiness: the age of the little patients whom I have seen in this state, has been from a few months to two or three years; they have been rather small of their age, and of delicate health, or they have been exposed to debilitating causes. The physician finds the child lying on its nurse's lap, unable or unwilling to raise its head, half asleep, one moment opening its eyes, and the next closing them again with a remarkable expression of languor. The tongue is slightly white, the skin is not hot, at times the nurse remarks that it is colder than natural; in some cases, there is at times a slight and transient flush: the bowels I have always seen already disturbed by purgatives, so that I can scarcely say what they are when left to themselves; thus the state which I am describing, is marked by heaviness of the head and drowsiness, without any signs of pain, great languor, and a total absence of all active febrile symptoms. The cases which I have seen, have invariably been attributed to congestion of the brain; and the remedies employed have been leeches, and cold lotions to the head, and purgatives, especially calomel. Under this treatment they have gradually become worse, the languor has increased, the deficiency of heat has become greater and more permanent, the pulse quicker and weaker, and at the end of a few days, or a week, or sometimes longer, the little patients have died, with symptoms apparently of exhaustion. In two cases, however, I have seen, during the last few hours, symptoms of oppressed brain, as coma, stertorous breathing, and dilated and motionless pupil.

I will relate a case as a specimen. A little girl, about two years old, small of her age, and very delicate, was taken ill with the symptoms which I have above described. She lay dozing, languid, with a cool skin, and a pulse rather weak, but not much quicker than natural. She had no disposition to take nourishment. Her sister having died only a week before of an illness which began exactly in the same way, and which was treated by leeches and purgatives; and some doubts having been entertained by the medical attendant of the propriety of the treatment, leeches were withheld, but the child not being better at the end of two days, the parents, naturally anxious about their only surviving child, consulted another practitioner. The case was immediately decided to be one of cerebral congestion, and three leeches were ordered to be applied to the head. As the nurse was going to apply them, and during the absence of the medical attendants, a friend called in who had been educated for physic, but had never practised it, and who had great

influence with the family: he saw the child, said that the doctors were not sufficiently active, and advised the number of the leeches to be doubled. Six, therefore, were applied; they bled copiously; but when the medical attendants assembled in the evening, they found the aspect of the case totally altered, and that for the worse: the child was deadly pale, it had scarcely any pulse, its skin was cold, the pupils were dilated and motionless when light was allowed to fall on them, and when a watch was held to its eyes it seemed not to see; there was no squinting. Did this state of vision depend on the pressure of a fluid effused into the brain since the bleeding, and during this exhausted and feeble state of circulation, or did it depend on the circulation of the brain being too languid to support the sensibility of the retina? It is well known that large losses of blood enfeeble vision. I saw a striking instance of this in a lady, who flooded to death. When I entered the chamber, she had no pulse, and she was tossing about in that restless state which is so fatal a sign in these terrific cases. She could still speak, asked whether I was come, (she knew I had been sent for,) and said "am I in any danger?—how dark the room is—I can't see." The shutters were open, the blind up, and the light from the window, facing the bed, fell strong on her face. I had the curiosity to lift the lid, and observe the state of the eye; the pupil was completely dilated, and perfectly motionless, though the light fell strong on it. Who can doubt that here the insensibility of the retina depended on the deficiency of its circulation? But to return to the little patient. The next day she had vomited her food several times; it was therefore directed that she should take no other nutriment than a dessert spoonful of ass's milk every hour, and this was strictly obeyed, and continued for several days. The child wasted, her features grew sharp, every now and then she looked fretful, and uttered a faint squeaking cry; the eyeballs became sunk in the socket, like those of a corpse that had been dead a month; the skin continued cool, and often cold, and the pulse weak, tremulous, and sometimes scarcely to be felt. Under this regimen, and in this way, she continued to go on for several days. At times she revived a little, so as to induce those who prescribed this treatment to believe confidently that she would recover, and she clearly regained her sight, for if a watch was held up to her, she would follow it with her eyes. She lived longer than I expected, a full week, and then died with the symptoms of exhaustion, not with those of oppressed brain. The head was opened by a surgeon accustomed to anatomical examinations, and nothing was found but a little more serum than is usual in the ventricles.

If the reader has perused the foregoing case attentively, and has reflected on it, he will of course draw his own inferences. I can draw no others than these, that the heaviness of head and drowsiness, which were attributed to congestion in the brain, really depended on a deficiency of nervous energy; that the bleeding and scanty diet aggravated this state, and insured the death of the child; also, that the state of the eye which so speedily followed the loss of

blood, and which resembled that occasioned by effusion, did in reality depend on a deficiency in the circulation of the brain, a fact of considerable curiosity and importance.

I will now relate a case similar in the symptoms, but very different in the treatment and result. I was going out of town one afternoon, last summer, when a gentleman drove up to my door in a coach, and entreated me to go and see his child, which he said had something the matter with its head, and that the medical gentleman of the family was in the house, just going to apply leeches. I went with him immediately, and when I entered the nursery, I found a child, ten months old, lying on its nurse's lap, exactly in the state I have already described; the same unwillingness to hold its head up, the same drowsiness, languor, absence of heat, and all symptoms of fever. The child was not small of its age, and had not been weak, but it had been weaned about two months, since which it had never thriven. The leeches had not been put on. I took the medical gentleman into another room, related to him the foregoing case, and several similar to it, which had been treated in the same way, and had died in the same way. Then I related to him a similar case which I had seen in the neighboring square, which had been treated with ammonia in decoction of bark and good diet, which had recovered; not slowly, so as to make it doubtful whether the treatment was the cause of the recovery, but so speedily that at the third visit I took my leave. He consented to postpone the leeches, and to pursue the plan which I recommended. We directed the gruel diet to be left off, and no other to be given than ass's milk, of which the child was to take, at least a pint and a half, and at most a quart, in the twenty-four hours. Its medicine was ten minims of the aromatic spirit of ammonia in a small draught every four hours. When we met the next day, the appearance of the child proved that our measures had been right; the nurse was walking about the nursery with it upright in her arms. It looked happy and laughing; the same plan was continued another day; the next day it was so well that I took my leave, merely directing the ammonia to be given at longer intervals, and thus gradually withdrawn, the ass's milk to be continued, which kept the bowels sufficiently open, without aperient medicine.

So inveterate is the disposition to attribute drowsiness in children to congestion of the brain, and to treat it so, that I have seen an infant, four months old, half dead from the diarrhœa produced by artificial food, and capable of being saved only by cordials, aromatics, and a breast of milk; but because it lay dozing on its nurse's lap, two leeches had been put on the temples, and this by a practitioner of more than average sense and knowledge. I took off the leeches, stopped the bleeding of the bites, and attempted nothing but to restrain the diarrhœa, and get in plenty of nature's nutriment, and as I succeeded in this, the drowsiness went off, and the child revived. If it could have reasoned and spoken, it would have told this practitioner how wrong he was; any one, who from long defect in the organs of nutrition, is reduced so that he has neither flesh on his body, nor blood in his veins, well knows what it is to

lay down his head and doze away half the day without any congestion or inflammation of his brain. This error, although I have specified it only in a particular complaint of children, may be observed in our notions and treatment of other diseases, and at other periods of life. If a woman has a profuse hæmorrhage after delivery, she will probably have a distressing headache, with throbbing in the head, noises in the ears, a colorless complexion, and a quick, weak, often thrilling pulse, all which symptoms are greatly increased by any exertion. I have seen this state treated in various ways, by small opiates, gentle aperients, and unstimulating nourishment, with no relief. I have seen blood taken away from the head, and it has afforded relief for a few hours, but then the headache, throbbing, and noises, have returned worse than ever; the truth is, that this is the acute state of what in a minor degree and in a more chronic form occurs in chlorosis, by which I mean pale faced amenorrhœa, whether at puberty or in after life. It may be called *acute chlorosis*, and like that disease, is best cured by steel, given at first in small doses, gradually increased, merely obviating constipation by aloetic aperients.

I shall not encumber this paper with a multiplicity of cases, but state that the above are only specimens of a class, of which I have seen enough to convince me that they deserve the attention of the profession. If I had any doubt about this, this doubt would be removed by the fact that Dr. Marshall Hall has already recognized them,* and described them in a paper which has been read at the Medico-Chirurgical Society.† He has therefore anticipated me in announcing them, but so far from regretting this, I am glad to support my statements by the authority of so observing and reflecting a physician. The only difference between our experience seems to be this—that he attributes the state which I have been describing to the diarrhœa produced by weaning, or to the application of leeches

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* Since the above was in type, and just before striking it off, I found the following passage in Dr. Abercrombie's Researches on the Brain, page 310. "I have many times seen children lie for a day or two in this kind of stupor, and recover under the use of wine and nourishment. It is often scarcely to be distinguished from the coma, which accompanies diseases of the brain. It attacks them after some continuance of exhausting diseases, such as tedious and neglected diarrhœa; and the patients lie in a state of insensibility, the pupils dilated, the eyes open and insensible, the face pale, and the pulse feeble. It may continue for a day or two, and terminate favorably, or it may be fatal. This affection appears to correspond with the apoplexia ex inanitione of the older writers. It differs from syncope in coming on gradually, and in continuing a considerable time, perhaps a day or two; and it is not, like syncope, induced by sudden and temporary causes, but by causes of gradual exhaustion going on for a considerable time. It differs from mere exhaustion in the complete abolition of sense and motion, while the pulse can be felt distinctly, and is, in some cases, of tolerable strength." It does not appear that Dr. Abercrombie opened the heads of any of these children, and therefore it is doubtful what was the state of the brain with regard to the blood vessels and the fluid in its ventricles.

† A short report of the paper will be found in the London Medical Gazette for 1829.

for some previous complaint. In most of the cases I have seen, however, the child has had no previous illness, and the leeches have been applied subsequent to the drowsiness, and as a remedy for it.

The children who were the subjects of this affection, and were thus treated, died not with symptoms of oppressed brain, but with those of exhaustion, and on examining the head after death, the blood vessels were unusually empty, and the fluid in the ventricles rather in excess; in two instances death was preceded by symptoms of effusion, viz., blindness, a dilated pupil, coma, and convulsions; and after death the ventricles were found distended with fluid to the amount of several ounces, the sinuses and veins of the brain being remarkably empty. I believe the prevalent notion of the profession is, that all sudden effusions of water into the brain are the result of inflammatory action; but putting aside for a moment this dogma of the schools, consider the circumstances of this case. For several days before death, all that part of the circulating system, which was cognizable to the senses, was at the lowest ebb consistent with life, and after death the blood vessels of the brain were found remarkably empty of blood, and the ventricles unusually full of water. From such facts I can draw no other inference than this, that this sudden effusion was a passive exudation from the exhalents of the ventricles, occasioned by a state of circulation the very opposite to congestion or inflammation. This is corroborated by the dissection of animals which have been bled to death. Drs. Saunders and Seeds, of Edinburgh, found that in animals bled to death, whether from veins or arteries, there was found more or less of serous effusion within the head, and Dr. Kelly thus expresses himself. "If, instead of bleeding usque ad mortem, we were to bleed animals more sparingly and repeatedly, I have no doubt that we should succeed in draining the brain of a much larger quantity of its red blood; but in such experiments we shall, I think, find a larger effusion of serum." * * * * "Though we cannot, by general depletion, entirely or nearly empty the vascular system of the brain as we can the vessels of other parts of the body, it is yet possible, by profuse hæmorrhages, to drain it of a sensible portion of its red blood, that the place of this spoliation seems to be supplied both by extra and intra vascular serum, and that watery effusion within the head is a pretty constant concomitant or consequence of great sanguineous depletion."* But if this is true, it is of great practical importance, for if we take delicate feeble children, and by bleeding and purging for an imaginary congestion of the brain, reduce their circulation to a very low ebb, and keep it so, we run the risk of producing that very effusion of serum into the brain which we are endeavoring by our remedies to prevent. The following

* Kelly on the Pathology of the Brain. Transactions of the Medico-Chirurgical Society of Edinburgh. 1828. Part I.

Dr. Kelly found that the loss of blood required to kill an animal of a given size was very uniform. A sheep required from 34 to 38 ounces; a dog weighing 20 pounds, was killed by the loss of 15 ounces; another, weighing between 40 and 50 pounds, was killed by the loss of 37 ounces; another, weighing 18 pounds, was killed by the loss of 11 ounces.

case, though I would not cite it as one of the class which I am describing, still bears upon the question of passive effusion into the brain.

A little girl, about three years old, small of her age, delicate in health, and wayward in disposition, was taken ill with the following symptoms: she could not hold her head up, lay dozing, for the most part, and complained occasionally of momentary pain at the top of the head. Her skin was cool, she had little disposition for food, her pulse was 76, not intermitting but irregular; neither light nor noise were disagreeable to her. Leeches were applied to the temple twice, and she was purged daily, but the treatment, after a week, had afforded no relief to the symptoms. The vertex was now shaved, and six leeches applied where she complained of pain, a cold lotion was applied fequently to the vertex, and she took a grain of calomel every four hours for two days. The leeches bled well, and the calomel operated freely, but without affording any relief to the symptoms; the pulse too lost its slowness and irregularity; it became weak and quick, above 130. In this state the little girl, still continuing to complain of pain in her head, six more leeches were applied to the vertex, making in all two dozen, and purging was continued. The next day she appeared much altered; she was pale and cold, and fainted on being raised. Depleting remedies were now altogether discontinued, and her diet was mended though liquid, but she continued weak and faint, and the next day was convulsed. She was insensible, her limbs were stiff, her eyes drawn to the left side, not both eyes turned towards the nose, but both turned to the left. As she could not swallow, all that was done was to warm her, for she was cold, and to inject a glyster containing spirits of turpentine. After a few hours the convulsions ceased, she came to herself with perfect vision, and the natural appearance of the eye; she talked, took nutriment, but still complained occasionally of pain on the head. The next day she was so much better that there seemed a fair prospect of her recovery. She was at this time taking no medicine, and feeding on equal parts of gruel and milk, or gruel and veal broth. As two days had passed without the bowels being moved, a solution of salts in infusion of senna was given, and this not operating after eight hours, she took two drachms of the compound decoction of aloes. The next morning she had one stool, but that an enormous one, and soon afterwards became comatose, with a dilated pupil, stertorous breathing, and palsy of the left side. In the evening she died; two weeks and three days from the beginning of her illness. The next morning the head was opened by Mr. King, of Regent street, formerly Interne at the Hôtel Dieu at Paris, and teacher of anatomy, to whom I am indebted for several valuable dissections: the following are his notes of examination. The vessels of the dura mater were quite empty; along the two posterior thirds of the superior longitudinal sinus, the two plates of the arachnoid membrane adhered by a white substance like cheese; it was limited to the extent of the sinus laterally; there was no injection in the vicinity of this lymph; the sinuses were empty; the veins of the pia mater were

remarkably empty, and this membrane was pale; the substance of the brain was remarkably pale; under the arachnoid membrane a thin stratum of limpid serum was effused. The ventricles were full of the same fluid, and a little distended by it. In all, there was not more than an ounce and a half of serum. On the surface of the ventricles two or three veins rather large were evident.

How far our opinion about the nature of the case may be modified by the white cheesy substance in the arachnoid membrane; whether the mode of treatment was wrong, or, on the contrary, right, but not prompt and active enough; on these points I shall not offer a conjecture; but when I consider, 1st, the low ebb at which the circulation was kept for several days before death; 2d, the emptiness of the blood vessels of the brain discovered after death; and 3d, that the symptoms of oppressed brain did not occur more than twelve hours before death, I cannot refrain from inferring that this sudden effusion of water was not an active exudation from vessels in a state of congestion, but a passive exudation from empty and feeble exhalents.

I do not expect that medical men will take my word as conclusive evidence for the truth of this paper, neither do I wish it; all I ask is that they will allow my observations and reasonings to induce them to look out for similar cases, and judge for themselves. With regard to the point that heaviness of head and drowsiness in children often depend not on congestion, but on deficiency of nervous power, and require for their cure not depletion, but support, I am quite satisfied that candid observers will find that I am right. With regard to the other point, that sudden effusion of serum may take place in the brain from a state of the circulation, the opposite to congestion or inflammation, it is more likely, even if true, to be overlooked; for such is the force of preconceived opinion, and such the prevalent notions on the subject, that the following will be the process in most minds. A child has been suffering some obscure symptoms for many days, when suddenly and unexpectedly it becomes blind, its pupils are dilated and motionless, it becomes convulsed, comatose, and dies. On opening the head, serum is found in the ventricles, and, without any further enquiry, it is immediately taken for granted, that this effusion was the effect of overlooked inflammation of the brain, and regret is felt that active depletion had not been employed; the inference may be a correct one; all I contend for is, that it should not be taken for granted, but that those circumstances should be minutely enquired into, which throw light on the state of the circulation in which the effusion occurred.

It is surely impossible for the reader to mistake me so far as to suppose, that I am denying the important practical truths, that heaviness of head and drowsiness in children commonly depend on congestion, and are to be relieved by depletion, and that acute hydrocephalus is a serous effusion, the result of inflammation, and capable of being cured only in the inflammatory stage by bleeding and purging. These vital truths I would state as strongly as any man, but there are opposite truths. All that I mean is, that these symptoms sometimes depend, not on congestion, which is to be

relieved by bleeding, but on deficient nervous power, which is to be relieved by sustaining remedies. All I advise is, that not only the heaviness of head and drowsiness should be noticed, but the accompanying symptoms also, and that a drowsy child, who is languid, feeble, cool, or even cold, with a quick weak pulse, should not be treated by bleeding, starving, and purging, like a drowsy child who is strong, plethoric, has a flushed face, perhaps swelled gums, and a heated skin. The cases I have been describing "may not improperly be compared to certain species of plants, by no means uncommon, which are liable to be confounded with others by an inattentive observer."*

SURGERY.

Extirpation of the left Ovarium.—A woman, 38 years of age, had borne five children in the space of seven years. After her fourth delivery she suffered from inflammation of the womb: from that period she complained of a dull pain in the left side of the hypogastrium, and about a year and a half after her last confinement, she perceived a small tumefaction on the left side: a few sulphur baths caused it nearly to disappear for a time, but latterly it had extended over the abdomen. Two years subsequently to this, her menses were followed by a malignant fluor albus, which added to the debility already induced. Dr. Chrymer having decided on the nature of the affection, and the patient having consented to the operation, it was performed by making an incision from the xyphoid cartilage to the pubes, leaving the navel to the right; the opening made into the peritoneum caused a prolapsus of a great part of the intestines; they were immediately enveloped in a warm and moist cloth. The adhesions of the tumor to the peritoneum and to the edge of the pelvis were then divided, a double ligature was applied to the pedule of the tumor attached to the broad ligament, which was divided an inch below the ligature. The intestines, which had been wrapped in the towel about five or six minutes, were then replaced within the abdomen, the serosity accumulated in the pelvis was wiped off with a sponge, and the wound closed by suture. The operation lasted a quarter of an hour, and the patient lost only a few ounces of blood; an emulsion, containing nitre, was ordered immediately, and hiccup with cold shivering showing themselves after some little time, some doses of laudanum were administered. The cure was not interrupted by any accident, and at the end of six weeks the woman returned to her native place. Since this operation she has borne a healthy child. The tumor weighed eight pounds, exceeded in size the head of a child, was irregular on its surface, livid in some places, and within, presented cavities, some filled with a fluid of the consistence of honey, and others with a greenish and sanious liquid.—*Graefe and Walthe's Journal.*

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* Abernethy's Works, Preface, p. 7.

Five cases (of which the above is the fourth) wherein operations for the extirpation of diseased ovaria were either attempted, or actually performed, are published in the "Archives Générales" for May. The above case was successful. In the first the tumor was so attached that the extirpation could not be performed; the abdomen was therefore closed, and the woman escaped with difficulty from the consequences; the second, the patient died thirty-six hours after the operation; the third case also perished at the same period. In the fifth case the tumor was so firmly adherent that it could not be removed, but the operator cut away the sac, and was under the necessity of securing some arterial branches: the woman died in thirty-six hours.—*London Medical Gazette.*

Nævus Maternus cured by Vaccination—Catherine Strathern, eight months old, was brought to the hospital (Glasgow Royal Infirmary) in the month of September, having a nævus on the lower part of the forehead, half an inch above the left inner canthus. It was observed at birth, and was then quite level with the surface. After a month it became elevated. Having never been vaccinated, fresh lymph was inserted, by minute punctures, both around the circumference and over the whole extent of the tumor. On the eighth day many small pustules were visible, and by the twelfth they had coalesced, and become incrusted. On the 21st the scab separated, leaving the surface underneath tender and slightly prominent. A second crust succeeded, and to this a third and a fourth; a perfect cure being effected in about six weeks.

I perfectly agree with those who have made trial of this practice, that it is indispensable to the ultimate success of the case, that the lymph should be freely introduced over the diseased surface, as well as around its circumference. In this way, the adhesive inflammation which is excited, appears to extend from one pustule to another, and in the course of a few days the whole becomes involved in one scab.—*Ibid.*

Aneurism of the Brachial Artery from Wound during Bleeding.—Some interesting and instructive cases of the above accident, for accident we suppose it may be generally called, have been contributed by Mr. Smith, senior surgeon to the Bristol Hospital, in the first number of the Provincial Medical Gazette. The paper in question has oddly enough been headed, a "Letter on Bloodletting," though with ordinary bloodletting it has very little indeed to do.

Case 1. About two years ago, Mr. Smith was summoned to a patient in great haste, in consequence of an apprentice having opened the brachial artery with a lancet, in mistake for the vein. When Mr. S. arrived, the patient had lost a large quantity of blood, though the hæmorrhage had been arrested by the tourniquet. Mr. Smith cleaned the orifice and arm, and accurately closed the former by placing over it a small button like compress, secured by adhesive straps and well regulated pressure. The tourniquet was then slackened, and the man sent to bed. The bowels were opened, and in two or three days, there being some febrile excitement, the patient

was copiously bled, but the arm was left undisturbed for a fortnight, when the pressure was removed. No tumor had appeared, an adhesive strap was reapplied pretty tight, to serve as a support, and from that time to this Mr. Smith has heard nothing of the patient.

Case 2. On the 15th of April, our author was summoned to a stout healthy workman, whose right brachial artery had been opened instead of the vein. The hæmorrhage had been very profuse, but a tourniquet was applied, and before Mr. Smith's arrival (three hours and a half after the accident) it was checked. The instrument had been screwed so tight that the man was in excessive torture, and the arm extremely swollen and livid. This case was treated in a similar manner with the former, and then the tourniquet gradually loosened, when the circulation was restored, and the pain by degrees disappeared. The bandage was cautiously tightened from time to time, and on the 2d of May every thing was removed. No tumor existed, and the man was directed not to use the arm roughly, an adhesive strap being placed around it as a measure of precaution. Mr. Smith has since learned, that the man experiences no inconvenience in the part injured.

"I might relate other cases in my own practice, or that of my friends, of the same kind, amply sufficient to show that *well regulated* pressure will generally succeed in preventing the formation of aneurism. Doubtless, occasionally, it will fail, and we have had many cases of brachial aneurism sent to the infirmary from various quarters, in some of which, very likely, pressure had been properly applied."

The two cases above detailed were certainly more favorable cases for the employment of pressure than those where the artery is punctured through the vein. We can see no good reason why pressure, properly applied, should not prevent the egress of blood from, and effect the healing of a clean cut in a vessel so much under our command as the brachial. Reasoning, à priori, would naturally lead us to this conclusion, and the experience of surgeons, Mr. Smith's, for instance, goes to establish its correctness. When, however, both vein and artery are wounded, pressure, however employed, will, beyond all doubt, be often unavailing in *preventing* the formation of one or other of the different species of aneurism which follow this particular injury, and if the aneurism be actually formed, it will very seldom suffice to *cure* it. Mr. Colles, we believe, of Dublin, succeeded in curing a circumscribed aneurism of the brachial artery after bleeding, but such cases are much too like angels' visits—few and far between. The following presented some unusual symptoms, and deserves to be recorded.

Case 3. A schoolmaster, twenty-four years of age, of irritable temperament, residing the other side of the Severn, had his brachial artery wounded in bleeding, when the operator, aware of what had happened, bound a large quantity of lint on the orifice. The blood forced its way to the cellular membrane, and shortly afterwards, when the external wound was healed, a pulsating tumor made its appearance, and in the course of six weeks had acquired the size of a hen's egg. He was now admitted into the Bristol Infirmary,

and next day the operation was performed of tying the brachial artery above. One of Mr. Smith's colleagues happening to have a finger on the tumor at the time that the incision was made through the integuments, informed him that the pulsation had instantly ceased on that being done. It was gone, too, from the wrist, although the pulsations in the other arm were strong, and the patient by no means in a state of syncope. The operation was continued and a ligature applied round what seemed to be the artery, but not secured, as no pulsation was presented by the vessel.

"For the purpose of restoring the circulation, the arm was plunged into hot water, renewed from time to time for an hour; but our efforts were unsuccessful. The lips of the wound were now approximated a little with adhesive plaster, the ligature being left as before, and the man covered up warm, and placed on his bed by the fire of the consultation room, which opens into the operation theatre. All this occupied the space of time between one and half past two. The man went to sleep, and was pretty comfortable, but the pulsation did not return till about seven o'clock, when it was pretty strong both in the tumor and at the wrist; and I had the satisfaction to find that a pull at the ligature checked it immediately and effectually. Assured thus that all was right, I made a knot, and tied the artery. The wound was then treated in the ordinary way, and my patient had a good night, and suffered but little.

"In nine days the ligature came away without a drop of blood, the wound was rapidly closing, and I flattered myself that all was well. Shortly after, however, he became attacked with erysipelas, spreading from the affected arm over nearly the whole of the trunk of the body, which occasioned suppuration in the cellular membrane of the limb, and sphacelus of some portion of its integuments; and considerably undermined his general health. When he was getting out of this, on the thirtieth day from the operation, there was a sudden and immense flow of blood through the wound where the vessel had been tied, which, in all probability, would have proved fatal, but for the accidental presence of a pupil. It was now judged expedient to amputate the arm, which I did immediately, a colleague commanding the artery by pressure, as there was no room for the tourniquet. The poor fellow bore it with more fortitude than I had anticipated, and after the operation said, 'Well sir, *now* I hope I shall get well.' In this hope you will readily believe I heartily joined, and I had indeed the pleasure of seeing him daily recovering for a fortnight or more, when he was suddenly, and without any ascertainable cause, seized with convulsions, and, in half an hour, a period was put to his sufferings.

"Upon examining the limb, we discovered that the brachial artery had ulcerated at the spot where the ligature had been applied. The aneurismal tumor was reduced to the size of a filbert."

This is certainly a puzzling as well as an unfortunate case, and the facts are all that are required, for commentary would be little else than conjecture. Mr. Smith, in concluding his "letter," mentions the particulars of the case of a young woman who plunged a

sharp knife into the palm of her hand. A surgeon failed to discover the bleeding orifice, but by pressing with his single finger in various directions, Mr. S. at last hit upon one spot which commanded the hæmorrhage. Pressure on the bleeding surface itself, by means of a firm ball of rolled lint, compressers, and roller, was employed, and with perfect ultimate success.

Before leaving the subject of wounds of the palm of the hand, we may just allude to a case which occurred to Mr. Palmer, a very intelligent young surgeon, of Suffolk Place, and which has been published by him in the London Medical Gazette.

Case. W. Hall, æt. 28, a respectable tradesman, punctured with the point of a sharp leather knife, the ulno-carpal artery in the palm of the hand, about an inch beyond the pisiform bone. The wound was small, but bled profusely; it was bandaged up for the ten following days, by which time it had perfectly cicatrized, and he took no farther notice of it, until, a few days afterwards, he observed a small pulsating tumor in the site of the cicatrix. On the 9th of June, when Mr. Palmer saw him, the tumor was as large as a small walnut, and had a strong pulsation, which appeared to be daily increasing, and was not stopped except by the simultaneous compression of the ulnar and radial arteries. On the 12th of June, after having placed a tourniquet upon the arm, Mr. P. made an incision, about two inches and a half in length over the centre of the tumor, and immediately secured the ulnar artery where it entered into it. The sac was then opened, but on slackening the tourniquet a strong jet of blood issued forth, and the point of a small probe not readily discovering the opposite orifice of the vessel, the latter was dissected for externally, found, and secured. Still, however, notwithstanding the branches of supply were thus tied above and below, a considerable hæmorrhage issued from the sac, and on loosening the tourniquet a second time, and finding it impossible to discover the bleeding vessel in the bottom of the wound, Mr. P. passed a double ligature beneath the sac, and tied its two ends above and below, including the sac between the knots. The hæmorrhage was by this means completely arrested—the wound was lightly dressed—the last ligature taken away on the 30th, and on the 7th of the following month the cicatrix was perfect.

We fully agree with Mr. Palmer in thinking that the proceeding he adopted was infinitely preferable to tying the radial and ulnar arteries, because it struck at once at the root of the affection, was much more certain in its effects, and was one operation instead of two. It is quite a mistake to suppose that the ordinary operation for aneurism in the course of a large vessel is applicable to all the affections in the smaller ramifications, and so surgeons are beginning to find it.—*Medico-Chirurgical Review.*

Extirpation of the Parotid Gland.—Though the fact of the entire extirpation of this gland is now determined beyond dispute, the operation appears to be almost discountenanced by many surgeons,*

* Allan Burns, Boyer, and Richerand, have all expressed themselves strongly against it.

as not likely to be of any important advantage, in consequence of the difficulties attached to it performance, and the danger and uncertainty of result which have hitherto attended it. In fact, the manner in which I have heard it spoken of by some anatomists, is calculated to deter any one from attempting it; viz. by way of giving an idea of its difficulty, they suggest an attempt at extraction, after the gland is injected with quicksilver, without opening any of its convolutions, and allowing the escape of the fluid. Now, besides that the healthy condition of the gland is widely different from its scirrhous state, the induration of which might, I conceive, rather facilitate its entire removal, no one would set about it with the idea of turning it out sound, and untouched by the scalpel. It may be wholly removed, with tolerable facility, in the dead body, by successive layers, and picking away the more deeply situated portions with the forceps and scissors. I have no intention in mentioning this of drawing any parallel between the facility of operations on the dead body and living subject. The practicability of the latter will, I think, be fully proved by the cases contained in the following thesis, on extirpation of the parotid gland, presented and sustained by Antonie Auguste Pillet, of Lyons, at the Faculty of Medicine of Paris, June 16th, 1828. Addressed to M. Gensoul.

M. Pillet commences by a retrospect of the numerous instances of the performance of this operation, published in the course of the eighteenth century; and comes to the same conclusion as Richter, that, as many of their authors have omitted to particularize the parts interested in the operation, we may fairly presume that the operators have been led to suppose they had abstracted the parotid, when they had merely dissected out an enlarged lymphatic gland, or other tumors situated upon it.

M. P. believes this to have been the case in the observations recorded by Verduin, Gooch, Behr, Palfin, and Scultetus; and considers his opinion confirmed by a passage in one of the authors on this subject, where he announces that hæmorrhage never follows ablation of the salivary glands, and regards as perfectly useless the precautionary means adopted against it. "But if we decide on rejecting the authenticity of these operations, at least as instances of total extirpation, what can we think (asks M. P.) of analogous cases by authors combining profound anatomical knowledge with surgical talents? Of those of Heister? who first laid down precise ideas on the operation; and who cites, in proof of its possibility, the case of a student on whom it was performed, but who died three days afterwards of hæmorrhage from a wound of the carotid, which the operator was either unable or too timid to arrest.* Of the testimony of Acrell† and Siebold?‡ both of whom have recorded successful cases. And of Souscrampe's operation; to be met with in the 84th vol. of the Journal de Medicine? These facts, too, have been rejected by the generality of surgeons, believing that enlarged

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* Vide Commercium Litterarium Norimbergæ, An. 1733, p. 61.

† Comment. Lepsiæ, Supplem. p. 659.

‡ C. G. Siebold, Parot. schirros. felic. ext. hist. Erfurti. 1781.

glands, or other tumors, have been mistaken for the parotid, which being compressed, nearly wasted, and concealed behind the maxilla, had escaped the bistoury. In support of this opinion, a circumstance which occurred to Boyer is cited. Having removed a tumor, as large as the fist, situated in the region of the parotid, he penetrated so deep, and tied so many vessels, that he concluded he had taken away the parotid; till, on carefully exploring the cavity, he recognized that gland very distinctly, remaining untouched behind the posterior border of the jaw. And another professor of this school affirms that the operation has never been performed. Struck by the contrariety of opinion on a question apparently so easy of solution, I thought it would not be without interest to collect some recent instances of the operation, performed by surgeons whose ability and good faith could not be suspected; and to add the pathological results gathered from the fatal cases, in order to throw their united light upon this point of operative surgery. Setting aside, therefore, all the operations recorded during the last century, as nearly all liable to furnish matter for cavil, a sufficient number still remains as ample testimony in its favor.

"No one, I conceive, will question the authenticity of the operation performed by Beclard, in 1823.* The patient died a few days afterwards; and it was readily ascertained that the surgeon had not deceived himself. The year following it was repeated by M. Gensoul, and a second time in 1826; successfully in both instances. The next two that present themselves, by Klein of Stuttgard, and Prieger† of Kreuznach, reported in Graeffe and Walther's Journal, bear a great resemblance to those above mentioned by Verduin and Scultetus, and may be passed over as doubtful. In England, however, Mr. Goodlad, of Bury, has lately extirpated this gland, forming an immense tumor at the left side of the face and neck; prefacing the operation by the ligature of the carotid. The cure was not lasting. The patient sunk under a return of the disease, fifteen months afterwards.‡ A case of the same nature occurred to Mr. Carmichael, with successful result; but leaving paralysis of the muscles of that side of the face.§ In France the operation has been lately practiced by M. Lisfranc,‖ 1826; and the same year by M. Idrae, of Tolhouse. In the former, death took place on the sixteenth day after the operation;¶ and the examination, conducted in the presence of the members of the Academy of Surgery, completely satisfied them as to the fact. As to the operation of M. Idrae, published in the Ephemerides Medicales de Montpellier, the

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* Archives Gen. 1824. Johnson's Journal, June, 1824.

† A second case by Dr. Prieger, is published in the 2d No. of Rust's Magazine for 1825, and given from Dr. Johnson's Journal for July 1826, at the end of this thesis; of the authenticity of which there can scarcely be a question.

‡ Med. Chir. Trans. Vol. 7.

§ Trans. of King's and Queen's College. Vol. 2d, Dublin.

‖ Revue. Med. 1826. Johnson's Journal, April, 1827.

¶ From ulceration in the coats of the stomach, the wound being very nearly healed.

extirpation of the entire parotid may appear somewhat doubtful. It is not easy to comprehend how M. Idrae could have carried into execution the deep dissection he describes, without opening a vessel or needing a ligature, except to the central pedicle of the tumor, in which pulsation was felt; unless either the parotid itself had been singularly flattened and forced inwards, and thus overlooked, or the vessels had been obliterated by the pressure, of which circumstance M. Lisfranc alone has made mention."

M. Pillet next goes through the anatomical relations and structure of the gland; and then speaks of other methods of extirpation, described by several surgeons. Of that by a single ligature, proposed and executed by Rookhuysen; and by numerous ligatures, practised by a Swiss surgeon, both probably for tumors of lymphatic glands. Of the use of caustic, also, recommended by Desault and Chopard, but attended by too great inconveniences to be adopted in practice.

Having taken this survey of the history of the operation, the author proceeds to the detail of the two operations of M. Gensoul, from notes furnished by himself.

The first case is that of "Jean Michel Fauce, aged 63, a manufacturer, of Lyons; of a strong constitution, and sanguine temperament. He first perceived the tumor over the right parotid, April, 1824; it was then about the size of a bean, and remained stationary for a short time. It soon, however, made rapid progress; the skin became red, ulcerated, and a greyish sanies was poured forth.

"At his entrance into the Hôtel Dieu, July 16th, 1824, the tumor had acquired the size of a hen's egg, and was the seat of such severe pains as to deprive him of sleep entirely. It did not appear adherent to the parotid. A limpid serous fluid was constantly discharging from some fistulous orifices at its upper part. I plunged a lancet into a point where fluctuation was manifest, and gave exit to a small quantity of blood mingled with streaks of a grey matter. Some days afterwards, the man suffering but little, believed himself cured, and left the hospital contrary to my wishes; but, as I had foreseen, soon reentered it, on the 4th of September following. The tumor, having been improperly irritated by topical applications, had then acquired a more considerable volume; the edges of the ulcer were tumid, everted, and of a greyish aspect; and furnishing a fœtid sanies in abundance. The tumor, before moveable, now seemed fixed to the parotid, which was itself enlarged, and very painful—compared by the patient to needles plunged into the part. I directed some leeches to be applied round the gland, and repeated them some days afterwards, with the effect of reducing the surrounding swelling a little, but not checking the progress of the disease. Sloughs formed upon the ulcer, now daily increasing, and exhaling the peculiar odor of cancerous affections. The rapid increase of the ulceration, and the sufferings and despair of the man, prevailed on me to yield to his entreaties, and decide upon attempting the extirpation of the disease; and I proceeded to perform it on the 20th of September, 1824. Having placed the

patient conveniently, I surrounded the tumor by two semi-elliptical incisions, of six inches in length, in the long diameter of the gland, leaving an interval of three inches in the middle between them. After having separated the tumor from the masseter, the edge of the lower jaw, and the mastoid apophysis, I endeavored in vain to break through its deep adhesions. The blood now flowed profusely; and the size of the tumor interfering with the dissection at its base, I detached that portion which was free, while the fingers of my assistants restrained the hæmorrhage. The dissection was continued with the aid of a director and the nails; and lastly, what remained of the gland was seized by the forceps, and cut away by the scissors, curved in their flat direction.

"Eleven arteries were tied successively, including the external carotid. The facility with which I was able to pass my fingers over the masseter, pterygoid, and sterno-mastoid muscles, the posterior border of the jaw, and the styloid and mastoid processes, satisfied me beyond doubt that I had abstracted the entire parotid. I then brought together the lips of the wound, and retained them in contact by adhesive straps, and directed the application of very cold water frequently, to moderate the intensity of the inflammation. The tumor was composed of a mass of gangliform tubercles, of greyish structure, lardaceous, and elastic; some of them softened, and containing fluid. Beneath them a decidedly scirrhous structure presented itself; and beyond that some glandular granules of the parotid were recognized, slightly increased in volume. The trunk of the facial nerve was seen on the posterior surface of the tumor; and at its anterior border, a portion of the stenonian duct. The wound proceeded regularly towards cicatrization; and when the patient left the hospital, October 28th, it was reduced to the size of a ten sous piece. Some fungous vegetation on the surface obliged Fauce to return, November 11th; and I immediately cleared away every particle which appeared of a scirrhous character. After the healing of this wound, however, lancinating pains and induration were perceived in front of the tragus; and the anterior part of the cartilage of the meatus auditorius, together with the tragus, were removed.

"The effect of this proceeding was the disappearance of the pains, and the perfect cicatrization of the wound; and he finally left the hospital, Jan 9th, 1825. The muscles of the face on that side were paralyzed, but not completely, and he appeared to regain power daily.

"Fauce had scarcely left the hospital, when he determined, as he said, to celebrate his recovery; and, abandoning himself to his favorite liquor, eau de vie, he gave himself up to most complete drunkenness some days. It was not long before a severe inflammation of the gastro-hepatic apparatus developed itself; and after suffering the consequences of his imprudence for some months, he sank under the disease, June 16th, 1825, six months after the healing of the wound.

"The dissection exhibited a fibrous substance behind the angle of the jaw, supporting the cicatrix; the meatus auditorious, facial

nerve, carotid artery, and parotid duct, divided as described above; and not the smallest vestige of the parotid gland.

"I removed the gland on the opposite side, for the sake of comparison, and it was impossible to discover any sensible difference between one side and the other.

"The gastro-duodenal mucous membrane was of a reddish violet color. The liver much enlarged, and filled with tubercles, some of them softened, and containing fluid similar to the yolk of an egg. The heart was small; the large vessels strongly injected."

The second case is as follows: "Eleonore Torque, aged 39, of strong constitution, and habitually regular, having enjoyed perfect health all her life, became aware, at the commencement of 1821, of the existence of a tumor in front of the lobule of the left ear, at that time as large as a nut. It was moveable beneath the skin, which was not altered in color, and pressure gave no pain.

"After some time it increased considerably, and she consulted several physicians of Grenoble and Lyons ineffectually. Very shortly, acute pains shot through the tumor; and it augmented in size to such a degree, that she determined upon entering the wards of the Hôtel Dieu, April, 1826, and to undergo any operation which might be necessary. It was now as large as the double fist, hard, unequal, indolent, and without any alteration in the color of the skin, and extending from the zygomatic process over the superior third of the neck.

"I proceeded to the operation, April 17th, in presence of several distinguished surgeons of this city, and a great number of pupils.

"Taking my station on the left side, with a convex bistoury, I made a vertical incision, of seven inches in length, from the zygoma to a point about two inches below the angle of the jaw, through the skin, which I dissected back carefully. Having thus exposed the tumor, it was raised with a hook; its circumference adhered to the neighboring parts by loose cellular tissue, through which I dissected from below upwards, with much circumspection. Notwithstanding all my care, the external carotid was divided, and having placed a ligature upon it, the operation was completed without the interruption of any other accident. The deep cavity left by the abstraction of the tumor, presented, in front, the masseter; behind, the anterior border of the sterno-mastoid muscle; superiorly, it was bounded by the zygoma; in the depth of the cavity, and below, the finger came in contact with the styloid process, and the muscles attached to it. The internal carotid artery, the internal jugular vein, and pneumogastric nerve, were exposed, near their entry into the base of the skull. The nerve of the seventh pair had been divided at its exit from the stylo-mastoid foramen.

"The wound was dressed in the same way as the preceding. The ligatures separated on the fourteenth day; and it was completely healed by the thirtieth, leaving paralysis of that side of the face."

Before giving the conclusions which the author has added to his thesis from Berard, the second operation of Dr. Prieger, and a successful case by Mr. Kirby, of Dublin, may be cited, to give them

still greater weight. The subject of the former was a woman, aged 43, mother of eight children, and of a weak constitution. The tumor had gradually increased, from its first appearance, nine years before, till it had reached an enormous magnitude, protruding over the zygoma superiorly, the chin inferiorly, weighing the face down upon the breast on that side, and extending backwards over the mastoid process. Its breadth across the lower part was eight inches.

The tumor now began to be painful and red, and the patient daily more cachectic; and Dr. P. performed the operation the second day he visited her. There was some difficulty in dissecting the tumor from its adhesions, and turning it out. The carotid was laid bare, but not divided. The portio dura, and inferior maxillary nerves, were cut through, and eleven arterial branches secured. "Not a trace of the gland itself, or the glandula accessoria, was allowed to remain." The tumor weighed three pounds and a half, apothecaries' weight; but the description of its structure is very undefined "uneven, tumulated, and of a very fine consistence." The operation was performed on the 7th of September; on the 20th the ligatures were withdrawn; and on the 1st of October the patient left the hospital perfectly cured.

Mr. Kirby's case is detailed in the April number of Dr. Johnson's Journal for 1826; and from the particulars of the operation, no doubt can be entertained of the entire removal of the parotid. Mr. K. states that sir A. Cooper, in a letter to him, mentions that he twice removed the parotid in one year.

The conclusions drawn by M. Berard from the single operation of Beclard, are fully warranted by the above cases; viz., 1st, that the carotid in a scirrhous state can be entirely extirpated; 2d, that the carotid, and its larger branches, are of necessity implicated in the operation; 3dly, that it is impossible to spare the facial nerve; and, therefore, that paralysis is an inevitable consequence.

With regard to the propriety of securing the carotid before commencing the operation, it is worthy of remark, that Mr. Goodlad's case was the only one in which it was performed. In MM. Beclard's, Lisfranc's, Gensoul's, and Carmichael's, it was tied during the operation; and in Dr. Prieger's and Mr. Kirby's, no mention is made of the trunk of the external carotid requiring ligature; in the former it was left untouched. Although it would undoubtedly be a measure of security, there appears to be no very urgent motive why it should precede the removal of the parotid; and there must be many cases where, from the size of the tumor, it would not be practicable.

If we may consider as criteria of the authentic instances of this operation, the division of the external carotid, and its larger branches; of the portio dura and parotid duct; and the exposure of the styloid and mastoid processes, and the muscles arising from them, we have upon record eight cases placed beyond all doubt, five of which were perfectly successful: we may, I think, say six, including M. Lisfranc's.

The character attributed to them, that of true scirrhus, may not

have been correct in all of them, knowing the loose meaning applied to the term by the French; but other disease may render the operation necessary, and should the extreme urgency of the case demand it—as that alone can sanction it—after such favorable results as those above recorded, I imagine no surgeon will consider its danger and difficulty so considerable as to render extirpation of the parotid unjustifiable.—*London Medical Gazette.*

Amputation of the Jaw.—A girl, 14 years of age, but whose aspect gave the idea of her not being more than 10, presented the following appearances: On opening her mouth, and pulling down the lower lip, the incisor teeth were first observed—some carried backwards and others forwards, as regards their natural situation; they were loose, and seemed as if embedded in soft wax. The gums were raised up, and beneath them the parts were perceived to be of a very deep red. Behind, that is to say, on the side of the jaw next the mouth, the same appearances presented themselves. Laterally, the disease appeared to extend beyond the first molar tooth on the right, and as far as that point on the left. When two opposite points of the jaw were laid hold of and pressed in different directions, in the manner usually done to ascertain the existence of fracture, about the symphisis, a very slight degree of mobility was experienced: and this M. Dupuytren stated had frequently fallen under his notice. There was a certain kind of imperfect fluctuation perceptible, which, together with the other symptoms, led M. Dupuytren to the conclusion that the case was one of fungus hæmatodes. He thought it prudent, however, to make an *exploratory* puncture, to determine the point more decidedly: a little blood, but no pus, flowed from the opening. M. Dupuytren having now made up his mind, resolved to operate, particularly as the skin of the chin was sound, and the girl, though rather thin and ill grown, appeared free from visceral disease.

The patient was seated on a chair slightly raised; the head supported by an assistant placed behind, who compressed the labial arteries as they pass over the edge of the jaw. Another assistant laid hold of the right side of the lower lip, and the operator seized that of the opposite side: the lip was thus stretched, and divided vertically by an incision commenced at its middle, and carried as far down as the os hyoides, exactly in the median line. The lip now formed two flaps, the connexions of which with the jaw were destroyed. A portion of the cheek was at the same time detached from the bone, which was laid bare a little without the two canine teeth. Before detaching the soft parts within, it was thought expedient to divide the bone, because, if the opposite course was followed, some considerable vessels might be cut, which could not be easily dealt with at the moment, and much loss of blood might be the consequence. The left canine tooth, and the first molar of the right side, had been taken out before the operation was begun. On the left side the noise of the saw proved that it met with sufficient resistance; but on the right its action was noiseless, and its course made without any effort, proving that the bone on that side was not

healthy, and there was, in fact, a prolongation of the disease beyond the first molar tooth—which diseased portion of the jaw was also removed.

The bone being divided on either side, the soft parts within were separated. Some vessels which threw out blood in jets were cauterized with an iron at white heat. At the moment the portions of the jaw which had been asunder were observed to approximate, the two flaps of the lower lip were brought together, and retained by sutures, after which the patient was put to bed.

The diseased part consisted of an irregular vascular "element," somewhat resembling the texture of the spleen; and a cellular part, which was dense, and mixed with a little fibrous tissue.—*French journal.*

THERAPEUTICS.

Rheumatism treated by the application of Acetate of Morphia to a Blistered Surface.—M. de St. M., of advanced age, of robust constitution, subject during twenty years to chronic rheumatism, and during the last four to an ill defined affection of the spine, experienced occasionally severe pain in the left leg. His movements were constrained, his gait uncertain, and he sometimes fell without any apparent congestion or other symptom about the head. A variety of means were tried against this slow but progressive paralysis; among these strychnia was employed with advantage, but the patient becoming aware of its powerful nature, became alarmed, and refused to continue it. On the 2d of July he was seized with horrible pain in the left lower limb, which was convulsed. M. Blanc applied ammonia to the upper and outer part of the limb, so as to raise a blister, the size of a forty franc piece, which was effected in ten minutes. The cuticle was removed, the surface of the skin dried by pressing it with a piece of fine muslin, and then sprinkled with half a grain of acetate of morphia. The pains continued, and in a quarter of an hour a second blister, similarly treated, was made at the inner part of the knee. By this a little relief was obtained, and the operation was practised yet a third time. The pain now instantly ceased, and never returned. The patient experienced some drowsiness and slight vertigo.

M. P., aged 30, of sanguine temperament, had some years ago an attack of acute rheumatism, which lasted four months, since which time he has enjoyed good health. On the 10th of July, being in the country, he was exposed to cold and wet for several hours. On returning home he experienced shiverings, headache, and severe pain in the left thigh. Next morning, as his sufferings continued to be very great, he sent for Dr. Blanc, who found him in a high fever, with his pulse at 115, great heat of skin, complete inability to move, and unsupportable pain in the affected limb. Two vesications were made on the thigh, each of which was powdered with half a grain of acetate of morphia, and some hours after the

pains entirely disappeared. The disease lasted eight days more, but without suffering, and the morphia seems, therefore, to have had little effect on its duration.—*La Cliniq.*

Acetate of Morphia successfully applied to a Blistered Surface in Tetanus.—A woman, 29 years of age, having general good health, received a slight wound on the brow, which she washed with cold water, and dressed with emollient poultices. Two days after, incipient trismus became manifest, accompanied by contraction of the muscles of the neck and abdomen. Tetanus soon became general, and the spasms were very severe. She was then (viz. from the 22d of October to the 27th) treated five days by means of bleeding; warm baths, continued for an hour and a half, or two hours; sedative plasters on the neck and temple; and, finally, she had a third of a grain of acetate of morphia every two hours. On the 1st of November, the disease still continuing, a quarter of a grain of the acetate of morphia was sprinkled over the skin, a blister having been previously applied, so as to produce a raw surface. The dose was repeated in a few hours. The effect was very remarkable; in a few hours the contractions became less violent, and the trismus abated. All other treatment was now abandoned, and the third of a grain of acetate of morphia applied twice a day. The patient rapidly recovered.—*Annali Univer. di Medicina.*

On the use of Chlorine in Scarlatina. By Taynton and Williams.—At the time scarlatina was raging severely in this neighborhood, a medical friend requested us to give a fair trial to the chlorine. At the moment, we were attending a boarder at the school, (mentioned in a former letter,) a son of Mr. Hammond, the druggist, at Dartford. He was most dangerously ill. The skin was covered with an eruption of a dusky hue; the nostrils excoriated by the acrimony of the discharge; the greatest difficulty in swallowing any thing; low delirium, with a very rapid pulse: in short, every symptom of approaching dissolution.

In this state he began to take the chlorine in the evening, one drachm in half a pint of distilled water. The nurse was directed to give him as much as she could prevail on him to swallow. On visiting him the follow morning, there was an evident amendment, and in twenty-four hours he appeared out of danger. Encouraged by this favorable case, and having many more opportunities of employing the chlorine, we gave it to patients of all ages; and we can most solemnly declare, that it proved successful in almost every case in which we were called in time, and in which the medicine was faithfully administered.

It possesses one very great advantage over most other medicines, which is, that children will generally take it without difficulty.—*London Medical Gazette.*

On the Inefficacy of Ammonia and the Efficacy of the Cold Affusion in the Treatment of Poisoning with Hydrocyanic Acid.—Some

years ago, Mr. Murray, of London, proposed ammonia as an antidote for poisoning with prussic acid, and the trials he made with it on the lower animals were so satisfactory, that he advertised his willingness to take a dose sufficient to cause death in ordinary circumstances, provided a competent person should be at hand to administer his antidote. The investigation, of which we are now to give an account, will probably satisfy him that he might have found reason to repent his rashness, had any one been so curious as to accept his offer.

Dr. Herbst, after repeated experiments, has come to the conclusion, that ammonia, even in a concentrated state, when administered to an animal which has taken a dose of prussic acid large enough to prove fatal, and when not administered till the symptoms have existed for some space of time, will hardly ever save its life. But he admits, that in cases in which the dose has not been adequate to occasion death, yet causes severe symptoms, this remedy is of substantial benefit, by mitigating and shortening its effects. He further objects to its general use as antidote, that in a tolerably concentrated state, it instantly excoriates the parts to which it is applied, and that in a state so dilute as to be free from this inconvenience its efficacy ceases. The following experiments are given in support of the foregoing statements. 1. A middle sized mastiff received 14 drops of Schrader's prussic acid, and when the symptoms were developed, yet had not passed the convulsive stage, twenty drops of *aqua ammoniæ* were dropped into its throat. It immediately sprung up and ran about, but soon fell again; and the muscles were less violently contracted. A drachm and a half of the ammonia was subsequently given at intervals, and always with the effect of making it jump up and run about for a little; but no permanent amelioration was produced. Fourteen drops more of the prussic acid were then administered, the effects of which were not in any degree lessened by the administration of another half drachm of ammonia. In a few seconds the animal expired. The tongue and throat were found excoriated and lined with blood. 2. Eight drops of the same acid were dropped into the throat of a Pomeranian dog four months old. Immediately he ran about confused, and then fell down. While the respiration continued, a portion of a mixture of half a drachm of ammonia, with half a cup of cold water, was poured into its mouth. At first it was not swallowed; but the animal soon became somewhat brisker, tried to rise, and then swallowed it; but its state of prostration rapidly returned, the muscles became flaccid, fresh doses of the mixture neither were swallowed nor produced any amendment, and death ensued five minutes after the administration of the acid. The irritability of the muscles continued long after death, and the heart continued to pulsate for ten minutes.

In Dr. Herbst's hands, the cold affusion proved a much more effectual and certain remedy. "When the dose of the poison was insufficient to prove fatal, two affusions were commonly sufficient to dispel every unpleasant symptom. When the dose was larger, it was requisite to repeat it more frequently, and to persevere for a longer time. The certainty of success depended greatly on the

early employment of the remedy. It was most to be trusted when resorted to immediately after the administration of the poison, or at all events during the convulsive stage, while the muscles were in a state of contraction, the eyes staring, insensible, and immoveable, the head drawn backwards, and the extremities extended. This stage is rapidly succeeded by general relaxation of the body, gradually increasing slowness and feebleness of the respiration, a slow, weak, or almost imperceptible pulse; and death is then close at hand. Even in this paralytic condition, the cold affusion will sometimes recal the expiring spark of life; then the convulsions of the muscles were renewed, the extremities became again hard and immoveable, and, by the gradual abatement of the spasms, the effects of the poison were slowly dispelled." The following experiments are related in support of what is here mentioned. 3. A full grown spaniel of a small breed got six grains of Schrader's acid. Immediately he uttered a piteous howl, fell down, stretched out his legs, and in a few seconds appeared dead. Cold water was then poured over its head and back, and subsequently over the whole body; when the breathing began to return, the animal in a few minutes shook itself, and then tried to rise. In a quarter of an hour he was able to stagger forward a little. In an hour he had recovered entirely. 4. A strong pointer bitch, five years old, took eight drops of Ittner's prussic acid. In a few minutes she staggered, drew her head backwards, and was on the point of falling, when cold water was dashed over her head. Instantly she recovered, and in a few seconds she was as lively as before the experiment. Several fresh small doses of the acid were subsequently given, and always with the effect of developing its narcotic action; but they were as uniformly removed by a fresh affusion. In fifteen minutes, violent vomiting of tough white mucus supervened, and she slavered much. These symptoms, however, also ceased in an hour and a half, when she took her customary meal. 5. Next morning eight grains were again administered to the same animal. Immediately she tumbled down, and was attacked with opisthotonos of the most violent kind, the breathing became more and more obstructed and feeble, and speedy death was evidently threatened. No time was now lost in applying the cold affusion. In a single minute the breathing became regular, she raised her head, looked bewildered around her, but continued lying. After a second affusion she stood up, walked, but with difficulty, and in an hour was so well that no sign of the action of the poison could be observed. 6. The most decisive trial was the following. Two young poodles were chosen, of the same age and size, and accustomed to the same sort of food. To one was given four drops of Ittner's acid, which had the effect only of causing temporary staggering. Eight drops were then given, and caused loud cries, mucous vomiting, and opisthotonos. From this dose too he was beginning to recover, when four drops more were given; and death then ensued four minutes after the first administration of the acid. The total quantity of acid amounted to seven grains. This quantity was next given to the other dog at one dose. He immediately turned round, staggered, and fell down, incapable

of stirring, and insensible. The head was drawn strongly backwards, the legs were extended, and in scarcely half a minute afterwards, the breathing was imperceptible, and the pulse hardly to be felt. The cold affusion of the head was then resorted to without delay, as the muscles were flaccid, and the animal appeared dead. At first it had no effect. The earliest sign of returning animation was renewal of the opisthotonos, and extention of the flaccid extremities; at the same time he uttered a feeble cry, which soon afterwards became stronger. The stiffness of the body continued a long time. The affusion was then repeated over the whole body. The crying continued, and touching the body seemed to cause pain. The affusion being repeated every fifteen minutes, the respiration at length became somewhat stronger; but it always returned to its feeble state in the intervals. At eight in the evening, (the author does not state the interval after the beginning of the experiment,) the animal was completely restored to health, ran about, barked, and took his food as if he had never been ill. 7. Nine drops of Schrader's acid were injected into the external jugular vein of a little house dog, six months old, in five minutes, twelve drops more, and other five minutes, fifteen drops, without any distinct effect, except quickness, weakness, and irregularity of the action of the heart. Twelve grains (27 drops) were then injected at once, upon which there ensued involuntary discharge of fœces, most violent tetanus, and all the customary symptoms, followed by flaccidity of the body and almost imperceptible breathing. The first cold affusions made the animal sprung high up, and when continued, they removed in no long time the paralysis of the hind legs, which was the last symptom that remained. In three quarters of an hour he had recovered completely. 8. Three days afterwards fifty drops were injected into the opposite jugular vein of the same animal. The tetanus was even more violent than before. The cold affusion was not resorted to, until the whole body was in a state of paralytic flaccidity, the muscles of the eyes alone preserving their spasmodic contraction. The effect of the remedy was equally remarkable as in any former experiment; after the first application, the breathing immediately became stronger; and in four hours the dog was as lively as ever. The same beneficial results were invariably obtained in other experiments, in which the poison was applied to the eye, to the inner membrane of the nose, or to external wounds. When the dose was so large that its effects were beyond the reach of the cold affusion, it was observed to prove fatal instantaneously, that is, almost before there was time to remove the remedy.—*Archiv für Anatomie and Phosiologie*, *No.* 2, 1828.

New Method of Treating Tænia. By Dr. Schmidt, of Berlin; and described by Casper, by order of the Prussian Government.—In October, 1823, Dr. Schmidt informed the Prussian minister of public instruction and medical affairs, that he had discovered, twenty years ago, an infallible remedy for tænia, which he now wished to sell to government. The minister instructed Dr. Natorp to make trial of the remedy. This gentleman gave a very favorable report

of it. He said it was suited even to feeble constitutions, that it evacuated the tænia in twenty-four hours at farthest, did not require any preparative treatment, and, besides, did not irritate the patient more than an ordinary purgative. Drs. Kluge and Neuman of the Charity Hospital were charged to repeat these experiments; and in their report of October, 1826, they expressed themselves as follows: "Schmidt's method has never failed in causing the expulsion of the tænia, in any case where its existence was clearly proved. Its effects are prompt, void of danger, and evacuate the worm entire and living." In consequence of these representations the king of Prussia has granted Schmidt a pension of 750 francs for the publication of his remedy.

The following is his method of treatment: The first day the patient is to take two table spoonfuls of the portion No. I. every two hours, commencing in the morning fasting, and continuing till 7 o'clock in the evening.

No. 1.

℞ Pulv. rad. valerian, ℥vj.
Fol. senna, ℥ij.
Make into an infusion of six ounces—
And then add—Sulp. sod., ℥iij.
Syrup mannæ, ℥ij.
Syr. ol. tanacet. vul., ℥ij. M.

The patient to take for breakfast coffee without milk, and very sweet; at noon, a panada or gruel, with some herring; at eight in the evening, a hash made of herring, ham, and onion, with much oil and sugar.

Most generally the patient voids more or less of the tænia during the first day. In two cases Dr. Schmidt has seen the worm evacuated entire by this preliminary treatment.

On the second day, the patient is to take, in a tea spoonful of syrup, six of the following pills every hour, beginning at six in the morning.

No. 2.

℞ Pulv. gambog.
—— rhei.
—— jalap, aa. ℥ij.
Assafœt.
Ex. taraxici, aa. ℥iij.
Pulv. fol. digital.
—— ipecac.
Sulphur antimon. præcip. aa. gr. xij.
Calomel, ℈ij.
Ol. tanacet. ether,
Ol. anis. aa. gr. xv. M.

Make into pills—aa. gr. ij. and keep in a close stopped phial.

Half an hour after the first dose, a table spoonful of castor oil is to be given, and much sweetened coffee drunk during the day. Generally the worm is evacuated by 2 o'clock, when the pills are to be discontinued; but should this not be the case, they are to be con-

tinued, giving, from time to time, a tea spoonful of castor oil with sugar. At noon a broth may be taken, and in the evening a panada. In order to be assured that there are no remains of the tænia remaining unevacuated, the patient should take a few of the pills the next day. In order to insure against the return of the complaint, the patient should take, for some time, every eight days, one or more doses of the pills; be restricted to a light animal diet, with wine, and also take some bitter.

In such cases as we are not well assured of the presence of tænia, he administers the following powder in the morning, in a little syrup, having taken, the night previously, largely of sugared water, and eaten herring as before directed:

℞ Pulv. jalap, gr. xv.
—— lem. santonici, gr. x.
Gambog.
Calomel, aa. gr. vj.
Ol. tanacet, ℥j. M.

During the day the patient is to take abundantly of some animal broth, and sweetened coffee. The powerful alvine evacuation it induces usually brings away fragments of the worm, sometimes the worm entire; and on the succeeding day the pills are to be had recourse to if required.

Dr. Schmidt advises not to employ the remedy during pregnancy, about the time of the menstrual periods, in persons affected with phthisis, in inflammatory diseases, marasmus, or in the feebleness of old age.

Of 66 cases cured, 15 were men, 20 had one worm only, all the others had several, and one of them 17.—*Archives Gen. de Med.*

MIDWIFERY.

Extra Uterine Fœtation.—Ellen Bryan, a married woman, aged thirty years, became pregnant in the year 1821. At the period of her expected parturition, she felt something break off from its place inwardly, and she was visited by her medical attendant. But the time passed away without any delivery, and without any diminution of her abdominal bulk. A new state of gestation supervened in a year and a half afterwards, and terminated, at the end of nine months, in the birth of a full grown female infant. At the expiration of about two years more, Bryan gave premature birth to a live babe, which seemed to have attained only the close of the sixth month. She again, for the fourth time, became pregnant in 1826, and was, after seven months' gestation, delivered, in Cork street Hospital, of a child, which, like the preceding one, survived its birth only a few hours. The original tumor remained unabated.

I first saw this poor woman upon her admission into one of my wards, on the 19th of May, 1827. The following state of disease presented itself to my observation: Countenance pale, dejected,

and expressive of long suffering; eyes sunken; much general emaciation, pulse slightly accelerated, and extremely weak; abdomen of immense bulk and prominence, palpably enclosing a large solid substance like a fœtus; the centre of this prominence pointing forwards, and exhibiting an incrusted ulcer on its apex, a little below and to the right side of the umbilicus. Diarrhœa.

21st May.—The incrustation at the apex of the above mentioned prominency has detached itself and fallen off, and has left an aperture into the abdominal cavity, from which there is a discharge of much fetid matter, partly ichorous snd partly purulent.

27th.—Diarrhœa unabated; abdominal pain not acute, except when it is rendered so by pressure, or by an unfavorable position of the patient; a most offensive odor emitted from the open abdominal ulcer; a gradually increasing dilatation of this aperture; a feeling on the part of the patient of being hurt interiorly by a bone. She takes a night pill containing one grain of opium; and, with a view of obviating as much as possible her hourly increasing debility, I direct for her four grains of sulphate of quinine twice a day, and twelve ounces of port wine, which she likes much.

9th June.—The abdominal aperture was hourly becoming larger. It was so wide yesterday as to expose to view the entire cause of this poor woman's tedious malady: viz. the inanimate body of a full grown male infant, which lay out of the womb in the abdominal cavity during more than the preceding six years. It has been taken out by our very intelligent surgeon, Mr. Trant, and preserved in spirits of wine. It is covered with a semi-coriaceous cutis, that is particularly distinguished over almost the whole of the surface of the shoulders, back, and seat, by an adipocire like appearance. Our poor patient is barely alive. Her pulse is scarcely perceptible. Portions of intestine have been destroyed by abrasion and sphacelation, and the feces pass out anteriorly though the opening.

13th.—She has ceased to exist.

14th.—Of the appearances exposed to view by the anatomical examination of the body, the following are the principal: An ample cyst, containing much pus, is situated behind and a little above the right side of the fundus uteri. The thick envelop of this sac consists in a prolongation of the peritoneum, especially of the right ligamentum latum. The right fallopian tube is distinctly traceable from both ends towards its centre, where it is connected with the external side of the parietes of the cyst, and is there lost in consequence of its being confounded with this envelop. The right ovarium is somewhat flattened on its posterior side, where it is close to the adjoining side of the cyst. The left ovarium, and corresponding fallopian tube, are sound, and in their natural situations. The uterus is sound, and does not bear the slightest vestige of any former laceration or of any kind of disease.—*Appendix to Dr. O'Reardon's Report of the Dublin Fever Hospital.*

MEDICAL JURISPRUDENCE.

Report of the Trial of Jonathan Martin, for setting fire to the York Minster.—The destruction of the venerable cathedral of York by fire, is fresh in the memory of all our readers, and the protracted trial of the incendiary, excited considerable interest in the public mind. The initiatory examinations of the supposed culprit—and, we admit, the actual perpetrator, left not a doubt in the mind of every medical man of any experience or knowledge in his profession, that Martin was as decided a monomaniac as ever entered the walls of Bedlam. The life of Martin, written by himself, is really a curiosity, and contains in every page—we might say in every line, intrinsic proof of disordered intellect. We are glad to observe by reference to the report of the trial, that the professional witnesses, Mr. Caleb Williams, and Dr. Baldwyn Wake, of York, proffered a chain of evidence, under a close, and sometimes a galling, cross examination, which does them infinite credit. We cannot better express our entire approbation of the sentiments and conclusions contained in the evidence of Mr. Williams and Dr. Baldwyn Wake, than by giving them a permanent record in our journal. It is a small, but an honorable prize, conscientiously adjudicated to merit. Would that we had more frequent occasions for expressing our approbation of medical evidence in courts of justice.

Caleb Williams, on his affirmation—examined by Mr. Sergeant Jones. Q. You are a surgeon in the city of York, I believe? A. Yes. Q. Are you one of the medical attendants at the lunatic asylum, called the Friends' Retreat? A. Yes. Q. Have you been conversant on the subject of the diseases of lunatics? A. Yes, for five or six years. Q. When did you first of all see the prisoner at the bar, Martin, so as to observe his state of mind? A. On the 21st of the present month. Q. How often have you seen him since that time? A. Daily, with the exception of two days. Q. In the first place I would ask you, what appears to be the state of his mind? A. I consider him to be what is denominated a "*monomaniac.*" *Baron Hullock.* Just state, for the information of the jury, what that is. A. It is a species of insanity, in which the delusion is confined to one idea only, or to one train of ideas. Q. Is that the expression that is well known and commonly used in medical treatises and discussions? A. Yes. Q. It is opposed to delirium or delusion, upon all subjects generally? A. Yes. Q. Then first of all I ask you, whether you have taken pains to satisfy yourself, whether the symptoms or appearances of his insanity are feigned or bona fide? A. I believe they are bona fide really. Q. Have you had any discourse with him on the subject of dreams? A. I have. Q. What is your impression with regard to the influence of dreams upon the mind of the prisoner? A. I believe his dreams to have more influence over him than they would have over a person of sound mind. Q. To what subject do the dreams of the prisoner apply? A. Chiefly to the subject of religion. Q. Did you also attend to his bodily strength? A. I did.

Q. Are there certain symptoms connected with his bodily strength, that afford any influence with regard to the state of his mind? A. There are. Q. Did the appearances which you witnessed with regard to the state of his body, concur, or run differently, with his state of mind? what is your opinion with regard to the state of his mind, as derived from those appearances? A. They confirmed my opinion with regard to the state of his mind. Q. How was the eye? A. The eye was red. Q. I need hardly ask you, whether persons acquainted with medical subjects of this sort, look to the eye of the patient as a test of their state of mind? A. The eye is frequently observed, certainly, and the countenance generally. Q. How was he as to his pulse? A. It was full, hard, strong, and quicker than natural. Q. Is that state of the pulse the one commonly found in instances of monomania? A. Yes, during the period of excitement it is common. Q. Do you think him a person that it would be safe to trust to go abroad? A. I think the instances that have been given, prove that it is not safe for him to go abroad. Q. Then you are of opinion that he is insane? A. Yes. Q. And that his madness is upon one particular subject, or upon one train of ideas? A. Yes. Q. Are there many patients or persons in confinement who are laboring under monomania, and who have no other complaint? A. Yes, there are many; I have opportunities of seeing many every week. *Baron Hullock.* Were it otherwise, he would not be denominated a monomaniac.

Crossexamined by Mr. Alderson. Q. Are not these monomaniacs capable of distinguishing right from wrong? A. Not upon subjects upon which they are deluded. Q. But upon general subjects? A. Upon subjects perfectly unconnected with their delusion they have the power of judging of right from wrong. Q. Upon those subjects upon which they are capable of so judging, they act like other persons capable of judging right from wrong? A. Yes, frequently. Q. Do they avoid dangers consequent upon their actions? A. Frequently. Q. Do they run away after having done a thing that they know is wrong? A. Very commonly. Q. Do they adopt skilful means to avoid the consequence of such an act? A. They are very cunning in escaping punishment. Q. And also very cunning in pursuing the means to accomplish an act? A. Yes, the same. Q. You don't consider that that shows that they know, beforehand, that they are doing a wrong act? A. No. Q. In what way would they show they were doing a wrong act: would they do it by staying, if they did know they had done a wrong act? In what way do you, as a medical man, expect that insane persons would show it? A. I should think that an insane man would endeavor to avoid being detected. Q. Then it is possible for a person, being an insane man, to do an act which he knows will be followed by punishment, and consequently endeavor to avoid it? A. It is. Q. Does not the fear of punishment deter them? A. I believe the mind is so absorbed with the delusive idea, that no other idea occupies their attention. Q. Do you not know that persons who are insane are prevented from doing such acts through fear of punishment? A. No, that will not operate so as to prevent the de-

lusion coming on. Q. What, in your judgment, is the peculiar subject upon which this person, the prisoner, is to be looked on as being mad? A. An undue reliance upon his dreams, believing they are revelations of divine will, directing him to perform certain acts. Q. Has he told you that that is so? A. Yes. Q. Have you any other reason for knowing it, than that he has told you so? A. No. Q. Had you any other conversations with him before? A. No. Q. When did you first see him? A. On the 21st of this month. Q. That was the first day of the assizes? A. Yes. Q. All your interviews have been with him since the judges came to town? A. Yes. Q. Since that, he has been telling you of his dreams. A. Yes.

Reexamined by Mr. Brougham. Q. You say you have had considerable experience in regard to the diseases of insane persons, from your attending a lunatic asylum? A. Yes. Q. Do you consider, judging from your experience, that the conduct and appearance of this prisoner could have been put on with the view of deceiving you, or that it was otherwise than real? A. I don't think it could.

Dr. Baldwyn Wake sworn—examined by Mr. Brougham. Q. You are a physician in York. A. Yes. Q. Have you had experience of lunatic patients? A. Yes. Q. Are you physician to a lunatic establishment? A. Yes, I am; to the York Lunatic Asylum. Q. How long have you been so? A. For thirteen years and upwards. Q. Have you seen the prisoner lately? A. Since the 21st of this month, and also about three or four weeks ago, without his being aware I did see him. I looked through the window of Mr. Kilby's apartment. Q. Have you paid attention to his case lately? A. Yes, I devoted an hour or two at a time, and investigated his case as carefully as time would allow me. Q. During the visits you have made, and you have seen him almost daily, you have investigated his case? A. Almost daily; and I have seen him occasionally twice a day. Q. Now, judging from what you have seen of him, and applying the result of your own experience in such diseases to him, is it your opinion that he is of sound or unsound mind? A. Of unsound mind, most undoubtedly. Q. Of what description is the insanity he labors under? A. *Monomania.* Q. Is that a frequent species of the complaint? A. Very frequent; there are a great many varieties. Q. But the characteristic of the whole of them is, that of being under a delusion on one particular point, and more or less sane upon other points? A. Yes, sir; that they have sanity upon most other points. Q. Did you observe any particular bodily infirmity about him? A. Yes. Q. Had you occasion to observe his head? A. I had. Q. What did you observe in regard to it? A. I observed that it has the appearance, on the frontal bone, as if he had had a wound or accident, and upon enquiring as to it, he told me a long detail of his burning the Minster, nearly as has been stated before; and in doing so, I observed that he suddenly put his hand to his head, and seemed quite lost for some time; that attracted my attention more particularly towards his head, and when he was apparently sufficiently recovered to answer questions, I asked him what was the matter, and he said, "when I talk much, a pain strikes me at that place where I had received a

wound." Q. Did you, in consequence of that observation, examine his head more particularly? A. Yes, I did. Q. What was the result of your examination? A. I found there was the mark of an injury there, and I enquired into the particulars of it. Q. I shall not trouble you to give a minute description of it, but you say there was apparently the remains of an injury? A. Yes. Q. Did you feel the mark of that injury with your hand? A. I did. Q. What effect did the pressure of your hand make upon it? A. Not much effect; but I found that there seemed to be some little depression upon that part, and I enquired something further about it. Q. I shall not ask you what he told you; did you make any enquiry as to his appetite? A. I did, and I found that he had a most voracious appetite. I went down in the cell when his wife came to him with his dinner, and I observed that he eat in the most voracious manner a beef steak pie, and he devoured it in a short time, although it appeared as much as any three men could have eaten. Q. Is that a symptom frequently attending the species of insanity you describe? A. It is an attendant symptom upon insanity generally, where the health is at the same time good. There is generally a voracious appetite, and he devours his food in a particular manner. Q. Did you observe his eye? A. I did. Q. What appearance had that? A. It was glassy, and when he was excited, it betrayed a great deal of *maniacal* expression, or appearance in it, which would strike any person accustomed to those diseased patients, so that they cannot mistake the nature of their complaint. Q. Could those bodily symptoms that you describe, have been put on for the purpose of deceiving you? A. I presume not. Q. Don't you believe they could not? A. I do firmly believe they could not; it is a mistake when I use the other expression, that I presumed it could not be assumed. Q. Had the pulse any thing to do with discovering the state of the patient? A. The pulse was uncommonly hard, and not very frequent. I examined the state of the heart, but I found the action of the heart did not account for the strong pulse, I therefore attributed it to his delusion, and to the state of his mind. That symptom is frequently attendant upon insanity, when there is a restlessness and excitement. Q. Is an inability to remain at rest one of the symptoms? A. I observed him when he did not know it, and perceived him walk up and down apparently five or six miles an hour; and that was his usual manner. Q. Was that observed frequently? A. Yes. Q. From the opportunities you had of seeing him upon those occasions you speak of, have you any doubt that he is a person of unsound mind? A. I have no doubt of it. Q. Is he a person capable of distinguishing right from wrong? A. Upon the subject of his delusion, I think not. I could state my reason for drawing that conclusion, if necessary, from another case that bears upon this one. Q. No, I don't ask you that, but I may ask you, if a person, who has a delusion upon one particular subject, and is, upon that subject, incapable of distinguishing right from wrong, be capable, upon other subjects, of distinguishing right from wrong. A. Generally, they can do so upon other subjects. Q. Could you, upon other subjects, rely, even with certainty, on

their distinguishing right from wrong? A. Yes. Q. Upon subjects generally, excluding those to which this delusion applies, I ask you, are insane persons under the influence of fear? A. I think upon maniacs in general, fear operates very powerfully. Q. And will they endeavor to effect their escape after they have done a wrong act? A. Yes, they will endeavor to elude punishment. Q. May a person laboring under this species of disease, called "monomania," be incapable of distinguishing right from wrong, and then doing that which we should call wrong, be able afterwards to know that they are likely to be punished for it? A. I think that when that delusion is frequently excited, a maniac does not know right from wrong; but then, after he has committed a crime, he may become sensible of his danger. I have known many instances of monomania, and I know that at certain times they have lucid intervals, and will be conscious of the error they have committed, and the delusion under which they labor; of this I know a striking case, if it were necessary upon this occasion to state it.

Baron Hullock summed up in a long, elaborate, and able manner. The fact of Martin's having set fire to the Minster was clear as the sun at noonday. But the question of culpability—that is to say, of sanity or insanity, rested entirely, or almost entirely, on the medical witnesses. The jury instantly acquitted him, on the plea of insanity—and every man of the slightest medical information, must acquiesce in the decision. We tender our thanks and the profession of sincere esteem to Dr. Baldwyn Wake and Mr. Williams.—*Medico-Chirurgical Review.*

DOMESTIC.

[We publish the annexed letter from our highly respected friend Dr. Roe with great pleasure, as announcing an important and valuable discovery, which cannot fail to interest practitioners in general, and, more especially, our numerous brethren in the country. As far as our opportunities of observation have extended, we are enabled to confirm the statement of Dr. Roe.]

New York Oct. 19th, 1829.

Dear Sir,—

The increasing demand for leeches in this country, and the expense of imported ones preventing the poor from having the benefit of this useful remedy, induced me, some time since, to make some observations and experiments on the American leeches, with a view of ascertaining the reasons why they could not be made to answer the purposes of imported leeches.

From the observations which I made, and from being informed by Dr. Henry Burnham, of this city, that he had found them to contain worms, I came to this conclusion, that the leeches of this country, when taken from the water, but more particularly from stagnant

pools, are so much engorged with nourishment, as to make them regardless of receiving any farther sustenance. I accordingly subjected them to the operation of stripping, and then kept them in rain water, by which they were rendered, for a short time, more voracious, but not equal to European leeches. From farther observation, I was inclined to think that they fed on animalculæ contained in the water. After stripping the leeches, and keeping them a few days in filtrated water, which was changed frequently, I found that they could bite as well, if not better, than those that are imported generally do. For want of a dripping stone, I made use, in this experiment, of a plate of plaster of paris, half an inch thick, cemented with the same to the sides of a common flower pot, about an inch from the bottom. I presume, however, that water filtered through paper would answer every purpose.

There are now, in this city, two individuals who have made a business of applying these leeches for several months, one of whom informed me lately, that, by keeping them a week or ten days in filtrated water, they will become so hungry as to bite each other.

I have made no experiment to acertain the length of time they will live in this state of starvation. From numerous trials, I do not believe that the bites of the American leeches are more likely to produce troublesome ulcers, than those of any other leeches.

Respectfully Yours,

STEPHEN C. ROE.

DR. PEIXOTTO.

Case of Poisoning by Opium, successfully treated by the use of the Stomach Pump, &c. Communicated by ANDREW HAMERSLEY, M. D., &c.

I was summoned, on the first of October, to visit Senor C., a native of Mexico, who, it was feared, had made an attempt to commit suicide by swallowing some poisonous substance. He had, for some time previously, exhibited unequivocal signs of mental depression; and even declared his intention to destroy himself, if his source of unhappiness was not removed. On my first visit, I found him with a full pulse, considerable cerebral excitement, and that leaden hue of features, so commonly observed during the operation of a narcotic medicine. There was some inclination to vomit, which the patient resisted, yet boldly denying that he had any designs upon his own life. Being unable to speak a word of English, and I being but imperfectly acquainted with the Spanish, we could hold but little conversation, except through his fellow countrymen, some of whom were sent for, to act as interpreters. I attempted in the first place to bleed him; this he determinately resisted, and I then resolved to employ the stomach pump. Some necessary delay occurred before the instrument could be procured, and when attained, the urgent solicitations of his friends could not, for some time, induce him to submit to its application. I then determined to apply it by force, and while making the necessary arrangements, the patient submitted. It was introduced into the

stomach by the insertor himself; and, as the organ was found to be empty, I ordered that water should be taken in by the pump, for the purpose of cleansing it. This fluid was immediately ejected by the voluntary efforts of the stomach, and smelled strongly of opium, containing, also, some very minute particles of what I conceived to be the solid drug. I then requested the patient to swallow large draughts of warm water, and enjoined locomotion for some minutes. This was soon followed by vertigo, and a return of full vomiting; and it was at this time that the fluid ejected possessed, in the greatest degree, the peculiar odor of opium, and contained the largest amount of the gum in a state of partial solution. It is proper to mention that very shortly before I arrived, the patient vomited to a considerable extent, what, however, seemed to be nothing but his dinner in a comminuted state, which he had just swallowed. He also, between this period and that of the employment of the instrument, vomited, once or twice, small masses of fluid, which had the odor of the opium, and was, to all appearance, mixed up with some of the gum. It was also about this time that Dr. Perez, a Spanish gentleman, arrived; who, from speaking the same language with the patient, had been solicited, by the friends of the latter, to visit him. He approved of the course which had been pursued; and, in consultation, it was determined, there being at this time a strong tendency to coma, with contracted pupil, to apply a blister to the nape of the neck, a sinapism to the epigastrium, and blisters to the thighs. Our evident intention then was to obviate such symptoms of cerebral congestion as appeared, as we had used every means which we could devise to empty the stomach of all the opium which it contained. A few hours after, we found the patient much relieved; his breathing had become calm, and the state of partial coma was exchanged for that of refreshing sleep. The blisters began to have their due effect; but the sinapisms, owing to the refractory opposition of the patient, were not applied. The succeeding night he slept with tolerable composure; but at about 7 o'clock of the morning, I was again called to him, as it was presumed, from a return of the vomiting, and from having discovered about his person a box containing pills of opium, that he had made a second attempt at suicide. Judging from the matter which was ejected, and from the irritable condition of his stomach, that if such attempt had been made, which the patient strenuously denied, some of the drug remained in the stomach, I merely, with a view of ensuring certainty, gave him a solution of sulph. zin., which, however, did not seem to affect him. An hour or two after, I found him quite calm—the blisters had acted well; and having enjoined proper precautions to prevent another similar attempt, and the administration of a mild but efficient purgative, light diet, &c., I left him till the ensuing morning.

On this day he confessed to a priest (a Spaniard) who had seen him occasionally from his first attack, that he had swallowed opium with the intention to destroy himself. He had now regained comparative tranquillity of mind. His bodily functions were regular; and, in a few days afterwards, he sailed for his native country.

The foregoing case derives its principal interest from the evidence it furnishes of the utility of the stomach pump; and this circumstance has, in part, induced me to put it upon record. It is also pertinent to remark, that as opium is one of those narcotics which affect the system, as Dr. Paris is inclined to think, by absorption, the propriety of bleeding, by its well known tendencies to hasten that process, might be called in question. Where, on the other hand, strong symptoms of cerebral congestion are present, which certainly can be best alleviated by local or general depletion; and where, too, an emetic cannot with safety be employed, till such congestion be relieved, we should hardly be authorized in abstaining, at least, from topical bleeding, which, as it has less effect upon the system at large, may be employed with less fear of promoting the absorption of the poison. The use of strongly acidulated drinks, and of undiluted vinegar, if the views above referred to are correct, is, of course, to be reprobated. Where, however, we apprehend that solid opium has been swallowed, the frequent use of warm water will be found, I think, of service, in separating more readily the gum from the stomach, to which, from its nature, it becomes, in a manner, agglutinated. Thus, in the present instance, the opium was ejected in the largest quantities even after the use of the stomach pump, while large draughts of warm water, with a constant motion about the room, were enjoined.

There were some circumstances connected with the above case, both of a moral and physical character, which it would be highly interesting and useful to discuss. These relate both to the views which have been, at different times, entertained of the *modus operandi* of opium, and of the correspondent treatment to be pursued; and to the severe legal enactments, and to the metaphysical speculations which have been framed on the subject of what might be termed the *suicidal disposition*, and the fatal consequences which frequently result. On some more suitable occasion, I shall resume this subject, under the points of view just referred to, with such aid as is to be derived from the writings of Esquriol, Falret, and others.

Account of a Case of Precocity, occurring in Morristown, New Jersey. Related by Dr. John B. Johns, in a letter addressed to Dr. D. Green, of New York.

The following statement of facts, is the substance of a conversation I had with Mr. Force and his parents.

They informed me that during the first year of his life they did not observe any thing extraordinary in his appearance or manner; he was small at his birth, weighing but six pounds; and when a year old, was small, in comparison with many other children at that age; but was healthy. As he entered his second year, he began suddenly to increase in size, and at the end of the second year, he very far surpassed any other child of that age within their knowledge.

He continued increasing most rapidly, both in height and weight, until he was seven years old, when he had attained the height of four feet ten inches, and weighed one hundred and nine pounds.

At nine years old he ceased to grow, and weighed one hundred and sixteen pounds, but he did not increase in height after he was seven years old.

His strength and activity were in proportion to his growth. He could shoe a horse at five years old, and could carry a bushel and a half of wheat up a pair of stairs.

His voice began to change between two and three years old, and at four, it was as completely changed as it is common for it to be with others at twenty. As his voice changed, his beard made its appearance, and although he was not shaved until it grew to such a length as to appear indecent, yet he began to shave at eight, and has had a very heavy beard ever since.

He informed me, that at twelve years old, he was in the habit of cradling rye and wheat, and mowing grass, and of doing the same day's work with men of thirty years old—cut as much and as fast, and with as little fatigue. Being a very short man, he had a cradle made particularly for himself, the handle and body of the cradle shorter than usual, but the scythe of the common length.

He was always unwilling to associate with children of his own age, but preferred the society of young men, and was unwilling to go to the same school with children, and not acquiring a fondness for books, he seemed to be dull in learning to read, write, and cypher, but had a great fondness for mechanical pursuits, and at ten years old, made himself a pair of boots, and has been a shoemaker for the neighborhood ever since. In the blacksmith shop, also, of his father, he exhibited equal ingenuity, in making and perfecting blades for penknives, and razors, or any thing else he chose to make.

His parents and himself concur in thinking that he arrived at maturity at the age of nine, at which time he seemed to be, both in body and mind, what most other men are at twenty; and that his general appearance is the same now as it was at thirteen. He has no grey hairs in his head, and looks like a man from thirty to thirty-five years old.

He says he is sensible of a great difference in his feelings after laboring hard through the day, from what they were when he was twelve or thirteen; and although but twenty-three in October, yet he talks and acts like a man of forty-five.

He says he emitted semen between nine and ten.

He is a very healthy man, with a large full face, large head, short neck, of a grave and serious countenance, very active, and in conversation a man of ordinary capacity. His present height is four feet ten inches, and weight about 116 pounds.

These are the most material facts that I was able to collect from the interviews I had with Mr. Force and his friends; you can use them as you please. Although they did not say any thing about publishing the case, yet Mrs. Force said her son had always been a source of great anxiety and trouble to her, and perhaps notoriety would not lessen it.

Case of Pneumonia treated by the Thomsonian Practice; with Autopsical Remarks. In a letter from Dr. RICHARD CLARK, of Watertown, N. Y., to Dr. J. J. GRAVES, read before the N. Y. Medico-Chirurgical Society.

Mr. Hor, aged 41 years, was, on the 27th of January, very much alarmed from a violent cough and pain in his right side, which increased every hour. His own practice was resorted to by his wife and brother doctor. Once and again the steaming process was had recourse to, but no relief was obtained.

The pain in his chest at this time was more severe and continuous. A physician of the village hearing of his alarming situation, and the means resorted to, to cure him, called to see him. On examination, the usual symptoms of pneumonia were present. Pain over the right and lower part of the left side of the chest; difficult respiration; cough; tenacious and bloody expectoration. During the last forty-eight hours of his illness, he complained of great pain in his stomach and bowels. He died on the fourth day from the attack of the disease.

The treatment was the same from the beginning of his disease until his death. If, after one course or *routine* of steaming was ended, he found no relief, another was immediately got in readiness, until death closed the scene which showed them, alas! too late, that the body diseased will not last forever.

Examination of the body nine hours after death. On raising the sternum, the right lung did not collapse, and the whole of the lung was in a state of hepatization. It much resembled the liver in color; some parts of it, however, were much darker. It was indurated and heavy, and portions of it easily torn by the finger. Parts of it sank on putting it into water, while some portions of the left lung floated on the surface. The costal pleura was highly inflamed, and there were adhesions between it and the lung; likewise between the lung and mediastinum. There was one pint of bloody water in this side of the chest. The same state of things existed in the left side of the chest, except not in so high a degree. The mucous membrane of the stomach was red and thickened, and very soft, easily separated from the muscular coat. The blood vessels of the stomach were large and crowded with blood. The coronary veins of the stomach were in the same state. The stomach was filled with a liquid strongly impregnated with red peppers, of which he took a large quantity before his death. The mucous membrane of the duodenum was the same as that of the stomach. The small intestine were healthy; liver healthy. No farther examination was made.

MISCELLANIES.

New York Medico-Chirurgical Society.—A number of physicians of this city, desirous to improve themselves in a knowledge of practical medicine and surgery, formed themselves, during the

last summer, into an association under the above title. The means by which they propose effecting the important objects in view, are the reading of original essays, the detail of cases, and the discussion of medical topics generally. Their meetings are held every fortnight, and have been thus far attended with great spirit and auspicious promises. A number of interesting papers have been read, cases without number have been detailed, and the most animated, yet amicable, debates elicited.

Among the advantages which the members of the society have already derived from their association, is that of the frequent opportunities which they have mutually derived from the autopsic examinations that successively occur in each other's practice. An interesting field is thus opened for pathological investigation, and practical improvement. By order of the Society, the committee of publication have selected the most important items from the transactions, and herewith communicate them. A regular series will be continued in the successive numbers of this Journal.

At the meeting held on July 30th, 1829,—Dr. TESSIER read the history of a case of precocity occurring at Quebec, Lower Canada, in a young girl now eight years of age, who began to menstruate when scarcely four years old. At her birth she possessed the ordinary size, was generally healthy, regularly vaccinated, had the measles, cut her teeth early and with great facility. When she had attained four years of age, the mons veneris was perceived to be covered with hair, and her growth had been so rapid, that she now had the appearance of a girl twelve or thirteen years old, the age at which menstruation usually commences in Canada; her breasts were full, and menstruation actually took place. Her mind did not make advances proportionate to that of her body.

At the meeting of August 13th,—Dr. F. O. DOUCET read an essay on the advantages and disadvantages of Pathological Anatomy. (Published among the original essays in this number.)

Dr. D. L. ROGERS detailed an interesting case occurring in an infant, which died in consequence of the lodgment of a thimble in the upper part of the œsophagus. The thimble was open at both extremities, and allowed the passage of food and medicines. Its presence had not been suspected! The infant died from inflammation on the tenth day. A preparation of the morbid parts was exhibited.

At the meeting of August 27th,—Dr. W. HIBBARD read the history of a case of fractured cranium, with loss of a considerable part of the substance of the brain, but which, nevertheless, recovered.

Dr. JOHN JAS. GRAVES read a letter from Dr. RICHARD CLARK of Watertown, N. Y., giving an account of a case of pneumonia treated by the Thomsonian practice, with autopsy. (See Domestic Intelligence in this number.)

Dr. JOHN S. BOWRON read an essay on puerperal apoplexy.

At the meeting of September 10th,—Dr. DAYTON related a case of epilepsy, terminating in apoplexy, which proved fatal in a few hours.

Dr. ROCKWELL detailed a case of obscure gastro-enteritis terminating fatally.

At the meeting of September 24th,—Dr. JONH S. BOWRON read a highly interesting essay on fever, in which the opinion was defended that fever always arises from some local affection.

Dr. DAYTON exhibited the stomach and part of the intestines of a young woman who had poisoned herself by arsenic. The viscera bore evident marks of acute inflammation.

Dr. D. L. ROGERS related the details of an operation which he had successfully performed for *the extirpation af a very large ovarian tumor*. The case was one of the first importance, and when published will undoubtedly attract general attention.

At an extra meeting held on October 1st,—Dr. BAXTER read an essay on cholera infantum. A lengthened and spirited discussion was then entered into on the merits of the views of fever advanced by Dr. Bowron in his communication made at the last meeting.

At the meeting of October 8th,—Dr. DAYTON exhibited the stomach and intestines of a man who had died after a lingering and protracted fever of the remittent type. The case had at one time promised to yield to the treatment employed, which was fully detailed, but relapsed in consequence of neglect in diet and overfeeding. It then assumed a low and malignant aspect, and terminated fatally with aggravated symptoms, delirium, hemorrhages dark and offensive, subsultus tendinum, yellow skin, &c. Tonics and stimulants had been used in the last stages, and with evidently good effects. An animated debate was, however, had on the propriety of this course, it being condemned by those who regarded the malignant symptoms as so many evidences of gastro-enteritis.

Dr. D. L. ROGERS related a case of hernia occurring in the inguinal canal. The nature of the case had not been suspected until after death; but it had been treated as a case of colic. The narrator then entered into some remarks on the diagnosis.

The same gentleman also related some experiments which had been lately made to ascertain whether there was any direct communication between the mother and fœtus. The result was not favorable to the supposition of such direct union.

At the meeting of October 22d,—Dr. JOHN L. SUCKLEY read an essay on diagnosis.

Dr. BOWRON reported a case of tetanus in a female, originating from intense grief, and relieved by powerful antispasmodics. Some remarks were added, tending to prove that tetanus always resides in the nerves of motion.

Secret Medical Association.—We extract the following article from the report of a "Trial of a suit brought into the District Court for the City and County of Philadelphia, by GEORGE MCCLELLAND, M. D., against FRANCIS S. BEATTIE, M. D., for a Libel," and we do so, without any other comment than the expression of a sincere hope, that the medical atmosphere of New York is untainted by the exhalations of any *branch* from such a parent stem.

"This gentleman is *said* to be a member, as are also Dr. Ritchie and Dr. Coates, of an association called the Kappa Lamda Society. That they are positively so, cannot be certainly pronounced, because the organization of that association is *secret*, and membership may be suspected, but not alsolutely known. This society comprises, probably, a great deal of individual respectability, being composed of more than fifty, perhaps seventy, physicians of this town. Its existence, however, is an opprobrium to the medical profession, and its tendencies manifestly evil. Dr. Benjamin H. Coates, in the course of an examination on his solemn affirmation, in a cause recently tried, was interrogated as to some matters connected with the character of this association. He at first declined giving any information, but being reminded of the compulsion under which he stood, he let out these characteristic particulars, viz. that the association is a *secret* one, and that the members, on being admitted, take an oath or solemn affirmation, binding themselves to mutual, but secret aid and support. In what manner they pass their time at the meetings of the association, or how their common funds or united efforts are applied, has not been made known.

"Surely no honorable purpose in professional life can require the aid of such a combination. Men may find advantage in secret societies for personal and gainful ends; but science, knowledge, virtue, and character, must flourish best in open light. In a profession in which success depends on talent, education, and industry, concealment of every kind has long been resigned to quacks, as fitting the degraded means by which persons thus denominated pursue their aims. In this enlightened age, in this intelligent and virtuous community,—that well educated members of one of the proudest of all professions, should seek for means of advancement in secret associations, and secret oaths of support, cannot but excite our special wonder. The proper course for a physician is easily designated. To study the science thoroughly, to practice faithfully, to deal with his competitors candidly, and to publish, in some form or other, whatever additions to the common stock of medical knowledge he may chance to acquire, such is the direct road to eminence, lying broadly open, and far preferable to any tortuous or hidden path that shuns the light of day. It is not difficult for one that sees even the surface of medical politics in Philadelphia, to discern some of the bad fruits of this disputable association. Indeed examples are easily cited. When the gentleman above named was compelled to disclose the fact of the secret oath, &c., he added that he entertained no sort of respect for any physicians, with very few exceptions, indeed, who do *not* belong to that association! Afterwards, having conversed with his friends, he thought proper to recant or explain away this rash expression; but the feeling which prompted it, and the source from which that feeling sprung, are too obvious to be misunderstood. Dr. Reynell Coates, also, who gave testimony in that case, and was doubtless regarded by the jury as a perfectly impartial witness, said very frankly to a gentleman in the court room, that he was the warm personal enemy of Dr. M'Clellan, and the warm personal friend of Dr. Beattie. Now it is be-

lieved, that no circumstance can account for this enmity, except that Dr. M'Clellan is *not* a member of the Kappa Lamda Society, and falls therefore under the ban denounced previously by Dr. Benjamin H. Coates. It will be observed that this was no expression of disapprobation, but of *enmity*,—a sentiment that cannot have been excited by anything that has ever occurred in the intercourse, whether personal or professional, between Dr. M'Clellan and Dr. Coates. Dr. Beattie is a member of the association, according to the statement of Dr. B. H. Coates.

"Two of the pernicious consequences of a secret cabal are thus developed—the spirit of exclusiveness and proscription that condemns or approves by the single test of fellow membership in the secret league, is one; and the animosities, misconstructions, misrepresentations, and false estimates of character that must flow from it, are too evident to need particular indication;—the other is the doubt that must hang on all testimony borne by medical men, whether in a court of justice or in society, if it is at all to be tinged or colored by hidden partialities arising from concealed associations, and by unrevealed obligations resting on secret oaths!

"An association of this kind realizes all that has been urged or suggested against masonry, by its warmest enemies—without the pretence, however, of being able to supply that exercise of charity which is the real boast and virtue of the masonic institutions.

"It is said that the Kappa Lamda Society has branches elsewhere; or, perhaps, this may be but a branch whose baneful root is in some other community. If so, the civil agency of such an instrument of mischief may be infinitely greater than is generally known. No professional character can be safe against an organized system of dispraise and injustice. This society publish a journal or Medical *Review*, purporting on the face of it to be fair and impartial. For a considerable time after the establishment of that journal, it sailed under false colors, bearing the names of certain respectable men as individual editors, while in fact it was published by the secret oath society. The impartiality of a *Review*, commencing with a display of *candor* like that, and conducted by fifty or more physicians, bound together by a solemn obligation of mutual commendation—can be readily appreciated!

"Some gentlemen who became members without knowing the real character of the association, have, it is said, declined to attend its meetings, but they are bound by the unlawful oaths that were administered to them there, not to expose the circumstances which move their honest disapprobation and disgust.

"The honorable portion of the medical profession ought to join, not secretly, but openly, to discountenance all such hidden contrivances to elevate particular individuals above their real merits, or to intercept the just reward of true excellence. Mutual support is due from all good men to each other, and if candor, liberality, and fair dealing be observed by the most elevated, the example will be followed by others, for the sake of appearance, at least, if not for the love of virtue. It is unquestionably so in the legal profession, why can it not be so in the profession of medicine?"

New York Medical Fees.—In compliance with the request of a number of subscribers, we republish the following list of medical charges, adopted by the Medical Society some years ago.

A list of Medical and Surgical charges established by the associated Physicians and Surgeons of the city of New York, Dec. 1815, *and approved by the New York County Medical Society, Jan. 2d,* 1816.

Verbal advice,	From $00 to 5 00
Letter of advice,	10 to 15 00
Ordinary visit,	0 to 2 00
Consultation do.	5 00
After visits, each,	3 00
Night visit,	7 00
Visit at a distance per mile,	1 50
Do. to Brooklyn,	3 00
Do. to Powles' Hook, summer,	5 00
Do. to Staten Island,	10 00

Both these last to be double in winter or storm.

First visit in epidemic, or other diseases, where personal danger is apprehended,	5 00
Each succeeding, under the same circumstances,	3 00
Vaccination,	5 to 10 00
Each dressing of wound,	1 to 5 00
Cupping,	5 00
Bleeding in arm or foot,	2 00
Do. in jugular vein,	5 00
Dressing blister,	1 00
Scarifying eye,	5 00
Puncturing œdematous swellings,	2 00
Inserting seton,	5 00
Do. issue,	2 00

Visits in haste to be charged double.

Detention $3 per hour.

.....$25 per day.

Introducing catheter,	5 00
Each succeeding time,	2 00
Do. in females,	5 00
Extracting calculus from the urethra,	20 to 30 00
Reducing simple fracture,	10 to 20 00
Do. compound fracture,	30 00
Do. dislocations,	5 to 20 00
Of the hip,	30 to 50 00
Reducing prolapsus ani,	5 00
Do. hernia,	10 to 25 00
Opening abscess,	1 to 5 00
Amputation of the breast,	50 00
Do. leg,	50 00
Do. hip or shoulder,	100 to 150 00
Do. finger or toe,	10 00
Do. penis,	20 00
Extirpation of testis,	50 00

Do. of eye,	100 00
Do. tonsils,	25 00
Do. tumor,	5 to 50 00
Perforating rectum,	25 00
Do. nostrils, external ear, vagina, or urethra,	5 to 25 00
Dividing the frenum linguæ or penis,	3 to 5 00
Paracentesis of abdomen,	15 to 25 00
Do. of thorax,	50 00
Operation for tic douloureux,	25 00
Do. for harelip,	25 00
Do. for hernia,	125 00
Do. fistula in perineo,	50 00
Do. fistula in ano,	50 00
Do. for phymosis,	10 00
Do. fistula lachrymalis,	40 00
Do. paraphymosis,	10 00
Do. wry neck,	50 00
Do. depressing cataract,	125 00
Do. extracting do.	150 00
Do. anterior of Saunders,	25 00
Do. popliteal aneurism,	100 00
Operation for carotrid aneurism,	200 00
Do. for inguinal or external iliac,	200 00
Do. brachial,	50 00
Do. radial, tibial, or ulnar,	25 00
Lithotomy,	150 00
Bronchotomy,	25 00
Trepanning,	100 00
Circumcision,	10 00
Common case of midwifery,	25 to 35 00
Tedious or difficult labors,	36 to 60 00
Case of gonorrhea,	15 to 30 00
Do. syphilis,	25 to 100 00
Preparing and administering enema,	2 00
Visit on board a vessel at the wharf,	2 50
Do. in the stream,	5 00
Do. at Governor's Island,	5 00
Do. for opinion involving a question of law, and in which a physician may be subpœned,	5 00
Extracting tooth at the patient's house,	2 00
Do. at the surgeon's,	1 00

Pharmaceutical Charges.

A single prescription furnished,	0 50
Pills, per dozen,	0 75
Boluses, each,	0 50
Electuaries per ounce,	1 00
Infusions per lb.	2 00
Solutions per lb.	1 50
Tinctures per ounce,	0 50
Ointments and cerates per ounce,	0 50
Blistering plaster, according to size,	1 50 to 2 00

Other plasters, - - - - - - -	$0 50 to 2 50
Decoctions per lb. - - - - - - -	2 00
A single medicine dispensed without visit, - - -	1 00
An anodyne draught, - - - - - - -	0 50

Medical Society of the City and County of New York.—Extract from the minutes of a meeting held on the 12th of October, 1829.

"The following preamble and resolution, offered by *Dr. Peixotto* and seconded by *Dr. Stearns*, were adopted.

Whereas much inconvenience arises from the present mode in which prescriptions are sent to apothecaries, and charges of a want of scientific accuracy are frequently alleged against physicians, which, in a great majority of instances, are wholly unmerited, and may be traced to the errors of ignorant pretenders and quacks, therefore,

Resolved, That it be recommended to the members of this Society, in all cases, to affix their names, or the initials of their names, to their medicinal prescriptions."

It is hoped that the obvious propriety of the above measure, unanimously adopted by the Medical Society, will commend its observance to the profession in general.

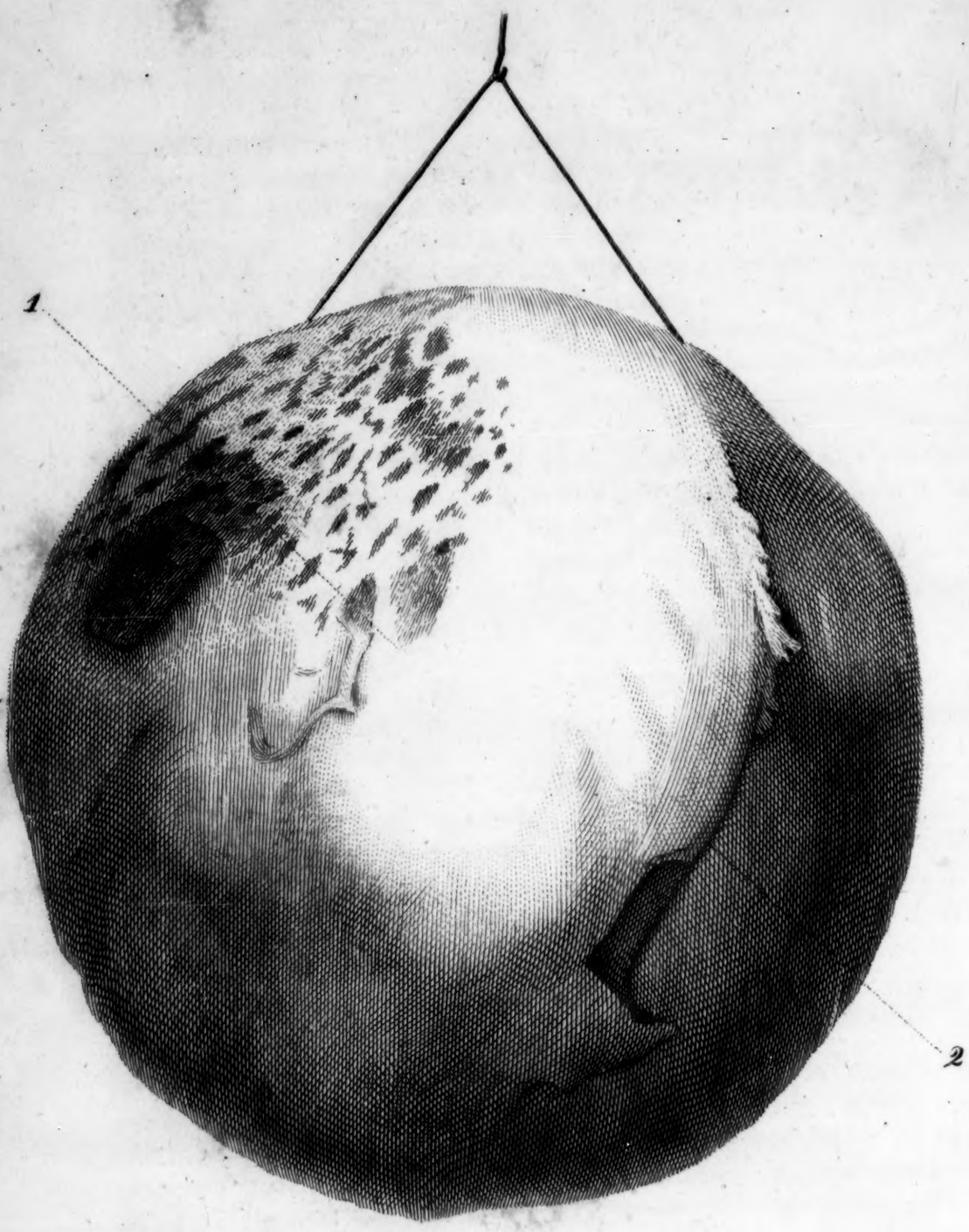
Dr. D. L. Rogers, has kindly promised us a detail of his successful operation, for the extirpation of an ovarian tumor. It shall appear in our next number.

Mr. C. S. Francis has published, in a very neat folio form, "Illustrations of the principal regions of the Human Body in relation to Surgical Anatomy." It contains twelve plates, accompanied by letter press explanations, and is well worthy the attention of every student of medicine.

To Students of Medicine. *Hospital and Infirmary Reports.*—A complete copy of this Journal, from the commencement of the new series, will be furnished at any time, in return for regular, well authenticated, and full reports of cases treated at any of the public infirmary institutions, in this country or elsewhere. The names of successful reporters will in all cases be conspicuously published, unless otherwise directed.

Gregory's Practice of Physic.—The first New York edition of this valuable work, with notes, by the Editor of this Journal, is in press, and will very speedily be published, in one volume 8vo.

Dr. D. L. Rogers' Case of Ovarian Tumor.



Lauch. del. W. Main. Sc.

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